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**Spatial and Temporal Analysis of Diazinon Irrigation-Season Use and Monitoring Data**

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**Abstract**

Diazinon is an organophosphate (OP) insecticide currently used on a wide variety of crops during California's irrigation season, as well as on dormant orchard trees during the winter season. Detections of diazinon in surface water have been reported in several areas of the state during all times of the year. The objective of this analysis was to assess recent (2003-2008) irrigation season surface water monitoring data from agricultural areas of California in order to determine the extent to which diazinon moves offsite into surface waters after irrigation season use. Monitoring data from sample sites that could potentially receive runoff from dormant spray applications of diazinon, or from urban sources, were identified and eliminated from the analysis in order to focus the analysis on irrigation season uses and sources. Monitoring data were from a variety of sources, including the Department of Pesticide Regulation, US Geological Survey, State Water Resources Control Board, Central Valley Regional Water Quality Control Board, Central Coast Water Quality Preservation, Inc. and The Watershed Institute.

Water bodies sampled were located in the Central Valley (Sacramento Valley, San Joaquin Valley and Tulare), several areas along the Central Coast (including Salinas Valley, Pajaro, and Santa Maria) and southeastern California (Imperial Valley). Overall, diazinon was detected 637 times in 2635 samples (24 percent); a benchmark concentration of 0.16 ug/L was exceeded in 9 percent of all samples. However, distinct differences in detection and exceedance frequencies by region were observed. Generally, the higher use Central Coast and Imperial Valley areas had greater detection and exceedance frequencies than the lower use Central Valley areas. (Salinas > Imperial > Pajaro > Santa Maria > Sacramento Valley > San Joaquin Valley > Tulare). The highest exceedance frequencies for the 0.16 ug/L standard were in Salinas Valley (60%, spring) and Imperial Valley (65%, fall); detection frequencies in those regions were over 90 percent. The primary crops in the high use/high detection areas were cool weather crops, especially lettuce; in the low use/low detection areas, the crops were stone fruits, tomatoes and corn. In general, detection frequencies were higher in tributaries than in rivers.

Diazinon was frequently detected in areas of California with at least moderate irrigation season agricultural use, with concentrations often high enough to result in negative effects on aquatic organisms. Detections occur most frequently in areas with high diazinon use. Common crops treated with diazinon in these areas include lettuce and other cool weather crops.

**I. INTRODUCTION**

Diazinon is an OP insecticide registered for use in California on a variety of agricultural crops. In 2007, over 345,000 pounds of diazinon active ingredient (AI) were applied on crops in California (DPR 2009a). Until the early 2000s, diazinon was also widely used for residential lawn and garden pest control. In 2000, the US EPA and diazinon registrants agreed to phase out the sale of diazinon for residential uses. All nonagricultural uses were phased out during 2002-2004. While diazinon products can no longer be purchased for residential use, and detection of diazinon in urban areas has reportedly decreased

significantly, some detections of diazinon from nonagricultural use are still reported (Phillips *et al.* 2006, DPR unpublished data).

Diazinon has been commonly used on dormant orchard trees during California's wet winter season. Due to frequent detections of diazinon in California rivers during the dormant spray season, California Department of Pesticide Regulation (DPR) placed diazinon dormant spray products into reevaluation in early 2003. Efforts are currently underway to mitigate offsite movement of diazinon into surface water from dormant orchards treated during the wet season. Currently, diazinon is also used throughout the year on California crops other than dormant orchards, including irrigation season use on lettuce, spinach, broccoli, cauliflower, corn, tomatoes, and other crops.

The objective of this analysis was to assess recent surface water monitoring data from agricultural areas of California in order to determine the extent to which diazinon moves offsite into surface waters during the irrigation season.

## **II. MATERIALS AND METHODS**

### **Agricultural Use Data**

Using data from the DPR's Pesticide Use Reporting (PUR) database (DPR 2009a), statewide agricultural use of diazinon was mapped by season for the years 2003-2007. Nonagricultural use was not included in this analysis. PUR data for 2007 were the most recent data available at this time.

Mapped PUR data were used in conjunction with CalWater 2.2 watershed maps to develop diazinon agricultural use region maps. CalWater 2.2 watershed maps are developed by the California Interagency Watershed Mapping Committee (USDA 2009).

Primary crops with diazinon use were identified by region/season. Total diazinon use and use density (use per unit area) within each region were determined by spatial analysis. Based on use density, a use rank was developed for all regions by season.

### **Surface Water Monitoring Data**

Monitoring data from DPR's Surface Water Database (DPR 2009b) and DPR's database repository were compiled for use in the analysis. Monitoring data from 2003-2008, with over 4500 samples from nearly 600 sampling sites, were included in the initial dataset. Data from prior to 2003 were not considered in order to avoid including detections from residential and other nonagricultural uses. Monitoring data were from a variety of sources (Kozlowksi *et al.* 2004, Central Coast Water Quality Preservation, Inc. 2008 and 2009, Central Valley Regional Water Quality Control Board 2008a and 2008b, US Geological Survey 2008, California State Water Resources Control Board 2009, and DPR unpublished data). Goals of the associated monitoring projects varied; however, in general the monitoring projects were not designed to specifically target diazinon. Reporting limits varied and detection frequency data were not censored at any common reporting limit. Trace detections (detections between the analytical method detection and reporting limits) were included in the analysis when available but were identified as such in the data. Trace detection data were not available for all monitoring data. All data met DPR's data requirements for entry into DPR's Surface Water Database (DPR 2009b).

Monitoring data were compiled by sample site for each season/year combination and mapped with the appropriate PUR data. Monitoring data were not available for all region/season/year combinations. Using the combined use/monitoring maps, sample sites that were outside of agricultural use zones (sites unlikely to receive agricultural runoff) and sites located in predominantly urban areas (likely to receive primarily

nonagricultural runoff) were identified and eliminated from the analysis. A separate spatial analysis of monitoring site/pesticide use data was completed for each season/year combination in order to accurately identify sampling sites appropriate for elimination from the analysis. Using PUR data, regions with dormant spray use of diazinon (winter applications to orchards) were identified. Monitoring data from sample sites that could potentially receive runoff from dormant spray applications of diazinon were identified and eliminated from the analysis.

No single enforceable statewide aquatic toxicity standard exists for interpreting diazinon concentrations in California surface waters. Several of California's Regional Water Quality Control Boards have developed standards that are applicable within their regions; other benchmarks and standards also exist (Table 1). Diazinon concentrations in surface water were compared to these aquatic toxicity standards and benchmarks in order to assess the significance of the detected concentrations.

Details on monitoring results were compiled by region/season/year. Included was the type of water body (river or tributary), the number of samples, the detection frequency and frequency of exceedances of diazinon toxicity benchmarks.

### **III. RESULTS AND DISCUSSION**

#### **Agricultural Use Data**

Nine use regions with significant diazinon agricultural use were identified (Figure 1). These use regions were used in all subsequent spatial analyses. The size of each use region (in square miles) and the primary crops treated with diazinon within each region were also determined (Table 2). Diazinon use seasons are also defined in Table 2. Crops with diazinon use vary by region and season. However, lettuce is the primary crop in the Central Coast use regions (Salinas, Pajaro and Santa Maria), as well as Imperial Valley. Lettuce is also a primary crop in the Tulare use region in both spring and fall. Diazinon applications in the Central Valley (Sacramento Valley, San Joaquin Valley, and Tulare) were primarily on stone fruit trees (plums, cherries, peaches, apricots and almonds), with some use on corn, melons, and tomatoes. Based on the winter (dormant season) use of diazinon on orchard trees in the three Central Valley use regions, all winter monitoring data for those regions were eliminated from the analysis.

The use regions (Figure 1) were selected to represent the majority of all agricultural use statewide. For each season/year, these use regions accounted for over 90 percent of all agricultural diazinon use statewide (average 96 percent; range 93-98 percent) (Table 3).

The Salinas Valley use region consistently accounted for the majority of diazinon use in all seasons, including from 45 to 50 percent of all statewide use during the spring and summer months. Other high use regions include the Imperial Valley, where approximately 40 percent of all diazinon use in fall occurred. The Pajaro use region also had considerable use, accounting for approximately 15 percent of all use in the spring and summer months. Antelope Valley accounted for approximately 12 percent of spring use in 2003; it was included in the analysis due to this use in 2003. Diazinon use in Antelope Valley was lower in subsequent years (Table 3).

Average diazinon use (2003-2007) for each season/region (Figures 2 - 5) is presented to provide a general view of relative use between regions; more detailed use information is presented separately (Table 4). Examples of the geographical distribution of diazinon use by season are also presented (Figures 6 - 9). Winter use in the three Central Valley use regions is not shown.

Diazinon use in pounds of active ingredient applied is presented in Table 4. Use by season in the Salinas Valley and Pajaro regions has been fairly consistent, especially during the spring and summer, while use

in the Imperial Valley during the fall appears to be decreasing. Use in the San Joaquin Valley during the spring and summer has also declined, while use may be increasing somewhat in Tulare in the fall.

The size of the use regions vary greatly. As such, simply comparing pounds of diazinon applied in each region is of limited usefulness. In order to develop a more useful comparison, a relative rank of use intensity between the use regions was developed. Total area of the regions was determined (Table 2) and diazinon use density within each region was calculated by dividing the total use within a region (in pounds AI applied) by the total area of the region (in square miles) (Table 5). Use rank (very low to very high), was developed from use density (Table 6).

Based on the use rank, the highest use density of diazinon occurs in the Salinas Valley in the spring and summer; this is the only region with very high use. High use occurs in the Salinas Valley in the fall and winter, in the Pajaro use region in the spring and summer, and in the fall in Imperial Valley. Use is moderate in Pajaro in the fall and winter, and in Santa Maria during all but winter, when use there is low. Use in all other regions during all seasons, including the Central Valley use regions during spring and summer, is low or very low. Central Valley winter use was not included in this ranking process or subsequent analyses.

### **Surface Water Monitoring Data**

Sample sites mapped with diazinon use (Figure 10) were used to identify and eliminate sample sites inappropriate for the analysis, as described above.

Results of the detailed analysis for each region/season/year, including detection frequencies and frequency of toxicity benchmark exceedances, are described below and presented in the summary data tables cited below. An overview of the results of the analysis is also presented (Table 7).

Exceedance frequencies for all of the aquatic toxicity standards and benchmarks from Table 1 are presented for all monitoring results (Tables 8 - 29). Also included are exceedance frequencies for several concentrations (0.50, 1.0, and 5.0 ug/L) greater than the aquatic toxicity benchmarks. The discussions below also include reference to exceedances of toxicity standards and benchmarks from Table 1; for this purpose, the 0.16 ug/L acute (1-hour average) standard is used to give an indication of the concentration ranges detected. These comparisons to aquatic toxicity standards are included for general assessment purposes; these are not enforceable standards in most of the agricultural areas of the state.

### **Salinas Valley Monitoring Results**

The Salinas Valley use region had frequent detections and exceedances of aquatic toxicity benchmarks (Tables 8 - 11).

In both spring and summer, when diazinon use is very high (Tables 4 - 6), the overall detection frequency was > 95 percent. Detection frequency in tributaries during spring and summer was > 99 percent. The 0.16 ug/L standard was exceeded in over 60 percent of spring samples and over 45 percent of summer samples (112 and 158 samples collected, respectively). The 0.05 ug/L toxicity benchmark was exceeded in more than 75 percent of both spring and summer samples. Detections and exceedances were more frequent in tributaries than in rivers. Three to four percent of tributary samples had concentrations over 5 ug/L.

In the fall, when use is high (Tables 4 - 6), the overall detection frequency was > 90 percent; overall exceedance frequency for the 0.16ug/L standard was over 40 percent. The 0.05 ug/L benchmark was exceeded in over 75 percent of samples. Both detections and exceedances were more frequent in

tributaries than in river sites. Five percent of all fall Salinas Valley samples had concentrations over 5 ug/L.

Winter samples collected in the Salinas Valley (38 total) resulted in detections approximately 84 percent of the time; the 0.16 ug/L standard was exceeded over 23 percent of the time. The 0.05 ug/L benchmark was exceeded in over 55 percent of samples. Diazinon use is high in the winter (Tables 4 - 6).

Many of the river samples included in the Salinas Valley data are from coastal rivers that are tidally influenced. As a result, monitoring samples from these sites are frequently somewhat diluted by incoming seawater. Salinity data available for these samples support this statement. A complete assessment of the impact of this dilution on detection frequencies was beyond the scope of this analysis. However, for these river samples it is likely that this factor resulted in an underestimation of the diazinon concentrations and detection frequencies occurring in the fresh water draining from surrounding lands in the Salinas Valley regions.

### Pajaro Monitoring Results

In the Pajaro use region, diazinon use is high in the spring and summer, and moderate in the fall and winter. Relatively few monitoring data are available for this area (Tables 12 - 14).

Of seven samples collected in the spring, diazinon was detected in 86 percent. No detected concentrations exceeded the 0.16ug/L standard; however, 14 percent exceeded the US EPA acute invertebrate benchmark of 0.105 ug/L and 43 percent of detections were > 0.05 ug/L.

Fourteen summer-collected samples were included in the analysis. Of these, the overall detection frequency was 64 percent, and 7 percent of all samples exceeded the 0.16ug/L standard. Of the tributary samples, 33 percent exceeded the 0.16ug/L standard.

Three of four fall samples (75 percent) had detections of diazinon. No fall samples exceeded any toxicity benchmarks.

No winter monitoring data were available for the Pajaro region.

Over 85 percent of all spring and summer samples from the Pajaro use region were river samples; very few tributary data were available. This may partially explain the relatively low detection frequency in this high use region compared to the Salinas Valley use region. DPR has recently increased sampling in this area and will include diazinon sampling of tributaries in that effort.

### Santa Maria Valley Monitoring Results

In the Santa Maria Valley, diazinon use is moderate in the spring, summer, and fall and low in the winter. Relatively few data are available for this region (Tables 15 - 18).

Of 14 samples collected during the spring, 71 percent had detections of diazinon, and 7 percent exceeded the 0.16 ug/L standard. In summer, for the same number of samples, detection and exceedance frequencies were 57 percent and 29 percent, respectively. Detection frequency was slightly lower in the fall, at 42 percent. The 0.16 ug/L standard was exceeded in 15 percent of fall samples. Of 10 winter samples, detection frequency was 60 percent. No samples exceeded the 0.16 ug/L standard. The highest exceedance benchmark in a Santa Maria winter sample was the 0.10ug/L benchmark (Table 1), with a 10 percent exceedance frequency.

### Ventura Monitoring Results

Diazinon use in the Ventura use region is low, and only four samples from four sample sites were available for this analysis. However, the detection frequency was 50 percent, and the 0.16ug/L standard was exceeded once, or 25 percent of the time (Table 19).

### Imperial Valley Monitoring Results

Diazinon use in Imperial Valley is high only in the fall. Samples collected in the fall in the Imperial Valley use region had high detection and exceedance frequencies (Table 20). Of 37 samples collected over six years, overall detection frequency was over 97 percent. Over 65 percent of all samples exceeded the 0.16 ug/L standard and over 5 percent of all samples had concentrations greater than 5 ug/L. Both detection and exceedance frequencies were slightly higher in river sites than tributary sites.

In Imperial Valley, the two primary rivers sampled were the Alamo and New Rivers. Both rivers originate in Mexico, flow north across the border into California, through the intensively farmed Imperial Valley and into the Salton Sea. The Alamo River is commonly dry or has very low flow at the border, but the New River normally has measurable flow originating from south of the border. Due to this potential for input from outside of California, all New River data downstream of the border (on the California side) were eliminated from the analysis unless accompanied by a diazinon sample with nondetectable concentrations at the border.

Surface water monitoring for pesticides is also frequently conducted in Imperial Valley during the spring. Diazinon use is very low in spring, but diazinon data are frequently collected in the spring as part of a multi-analyte organophosphate analytical screen. For 29 samples collected over the same six year period in Imperial Valley during the spring, there was only one detection of diazinon ( less than 0.05 ug/L), and no toxicity benchmarks were exceeded. Thus, very low agricultural use in this region results in very low detection frequencies, as would be expected.

### Sacramento Valley Monitoring Results

In the Sacramento Valley, diazinon use is low in the spring and summer and very low in the fall.

Of 250 samples, the overall detection frequency in the spring was 15 percent; when trace detections are considered, the overall detection frequency was 25 percent. About 1 percent of samples exceeded the 0.16 ug/L standard.

In summer and fall, detection frequencies were lower (between 4 and 7 percent) (Tables 21 - 23).

### San Joaquin Valley

In the San Joaquin Valley use region, diazinon use is low in the spring and summer and very low in the fall. A great deal of monitoring data are available for this area, especially during the spring and summer.

Of 471 samples collected during the spring, the detection frequency was 9 percent. When trace detections are considered, the overall detection frequency was 19 percent. Fewer than 1 percent of spring samples exceeded the 0.16 ug/L standard.

A total of 900 samples collected during the summer were included in the analysis. For summer samples, detections occurred at a rate of approximately 6 percent. The 0.16ug/L standard was exceeded in about 1 percent of summer samples. Detection frequencies were greater in tributaries than in river sites.

Of 102 samples from the San Joaquin Valley in the fall, the detection frequency was 3 percent. The 0.16 ug/L standard was not exceeded. (Tables 24 - 26).

### Tulare

In the Tulare use region, diazinon use is low in spring, summer and fall. Relatively little monitoring data are available from this area, especially in the spring and fall. Of 11 samples collected during the spring, the detection frequency was 9 percent. Of the 77 samples collected during summer, the overall detection frequency was 1 percent. There were no detections in the six samples collected in the fall in Tulare. No toxicity benchmarks were exceeded in any of the samples from the Tulare use region (Tables 27 - 29).

## **IV. CONCLUSIONS**

In general, agricultural regions of California with high or very high irrigation season use of diazinon have frequent detections and exceedances. Detections and exceedances in use regions with low or very low use are relatively infrequent but do occur. Detection and exceedance frequencies were generally higher in tributary samples than in river samples.

Detection frequencies were high in Salinas Valley, Pajaro, Imperial Valley (fall), Santa Maria and Ventura. Of these, Salinas and Imperial Valleys were the best characterized, with several years of data and relatively high numbers of samples collected each year. Few samples were available from the Pajaro use region, and of those available, most were from river sites. This may partially explain the lower detection and exceedance frequencies observed in that region in spite of the high use there. The Santa Maria use region, with only moderate use, had relatively high detection and exceedance frequencies. In the Ventura use region, very few data are available; however, based on those limited data, detection and exceedance frequencies in that region are high. The primary crops in these regions include lettuce, spinach, and broccoli; in Salinas Valley, over 70 percent of all use is on lettuce.

Detection frequencies in the Central Valley use regions (Sacramento Valley, San Joaquin Valley, and Tulare) were relatively low. Detections occurred most frequently in the spring. These three use regions have the most monitoring data (over 2,000 samples combined). The regions are very large and use is low and spread throughout the regions. Likely this is the primary explanation for the low detection frequencies in these regions.

Overall, diazinon is frequently detected in areas of California with at least moderate irrigation season agricultural use. Concentrations are frequently high enough to result in negative effects on aquatic organisms. Detections occur most frequently in areas with very high use. Common crops treated with diazinon in these areas include lettuce and other cool weather crops.

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## VI. TABLES AND FIGURES

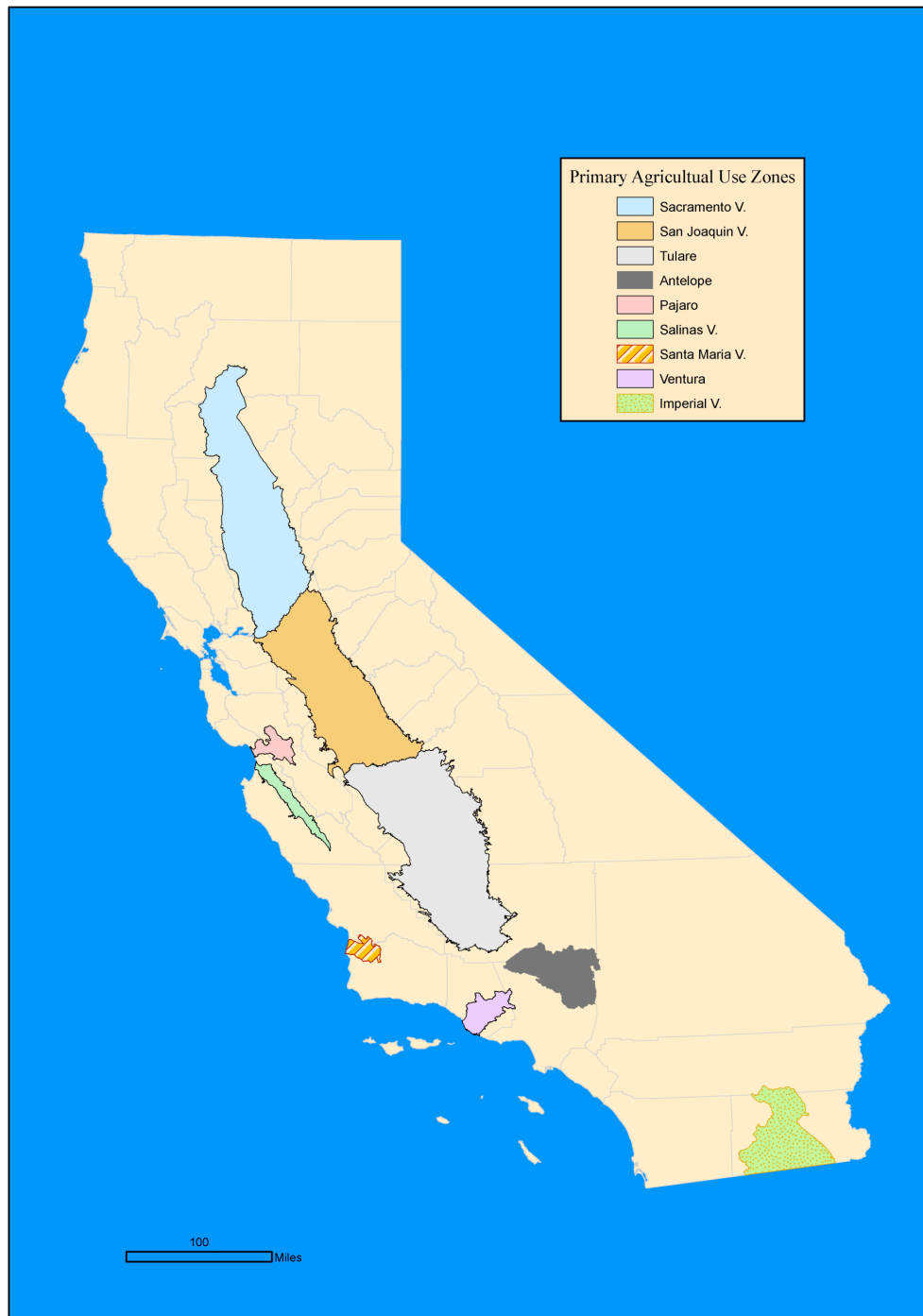


Figure 1. Regions of Agricultural Diazinon Use.



Figure 2. Average Diazinon Agricultural Use, Spring (March - May), 2003-2007.  
Use is in pounds of active ingredient.



Figure 3. Average Diazinon Agricultural Use, Summer (June - August), 2003-2007.  
Use is in pounds of active ingredient.



Figure 4. Average Diazinon Agricultural Use, Fall (September - November), 2003-2007.  
Use is in pounds of active ingredient.



Figure 5. Average Diazinon Agricultural Use,  
Winter (December - January) 2003-04 through 2006-07.  
Central Valley use not shown. Use is in pounds of active ingredient.

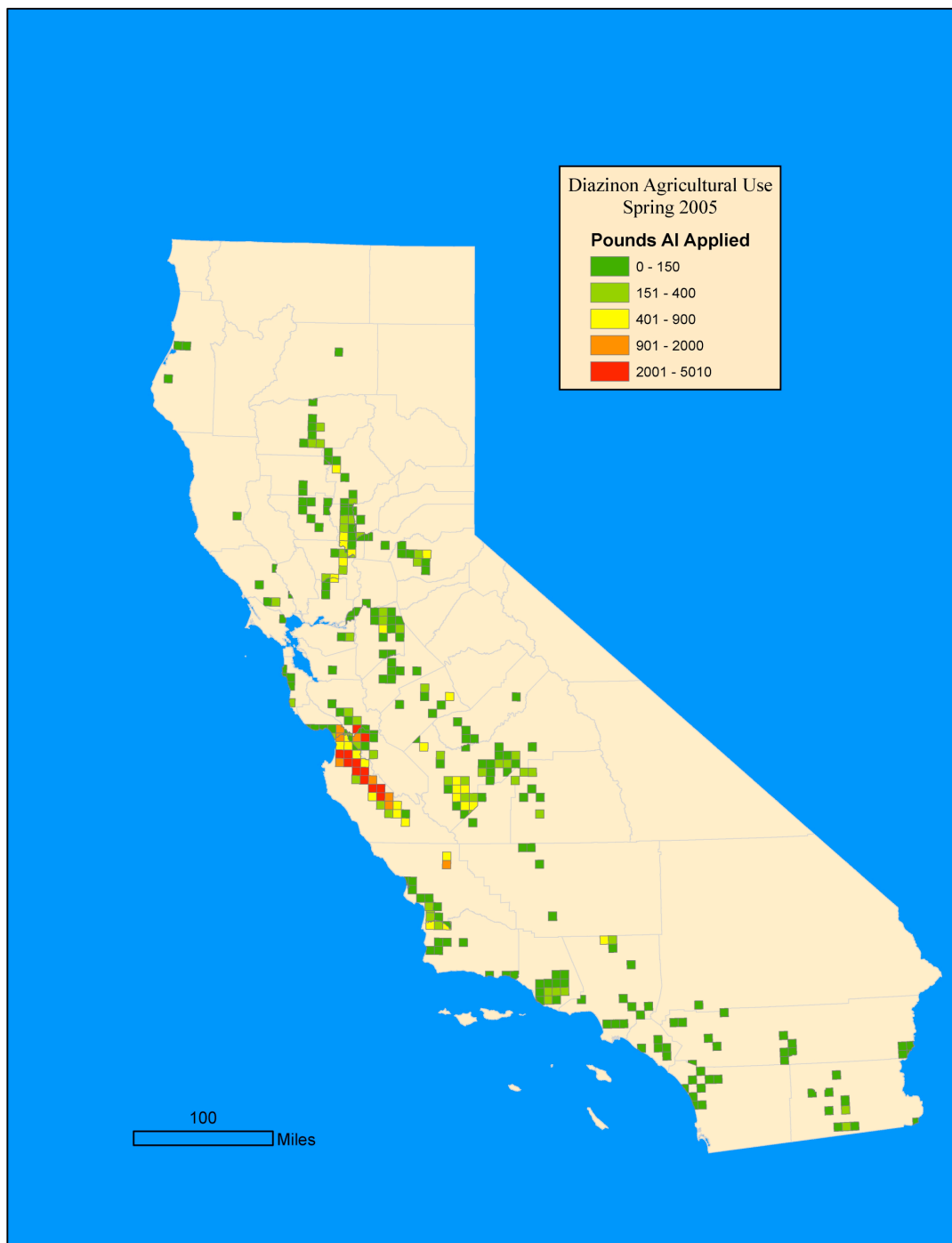


Figure 6. Typical Spring Diazinon Agricultural Use  
(Data shown are Spring 2005)

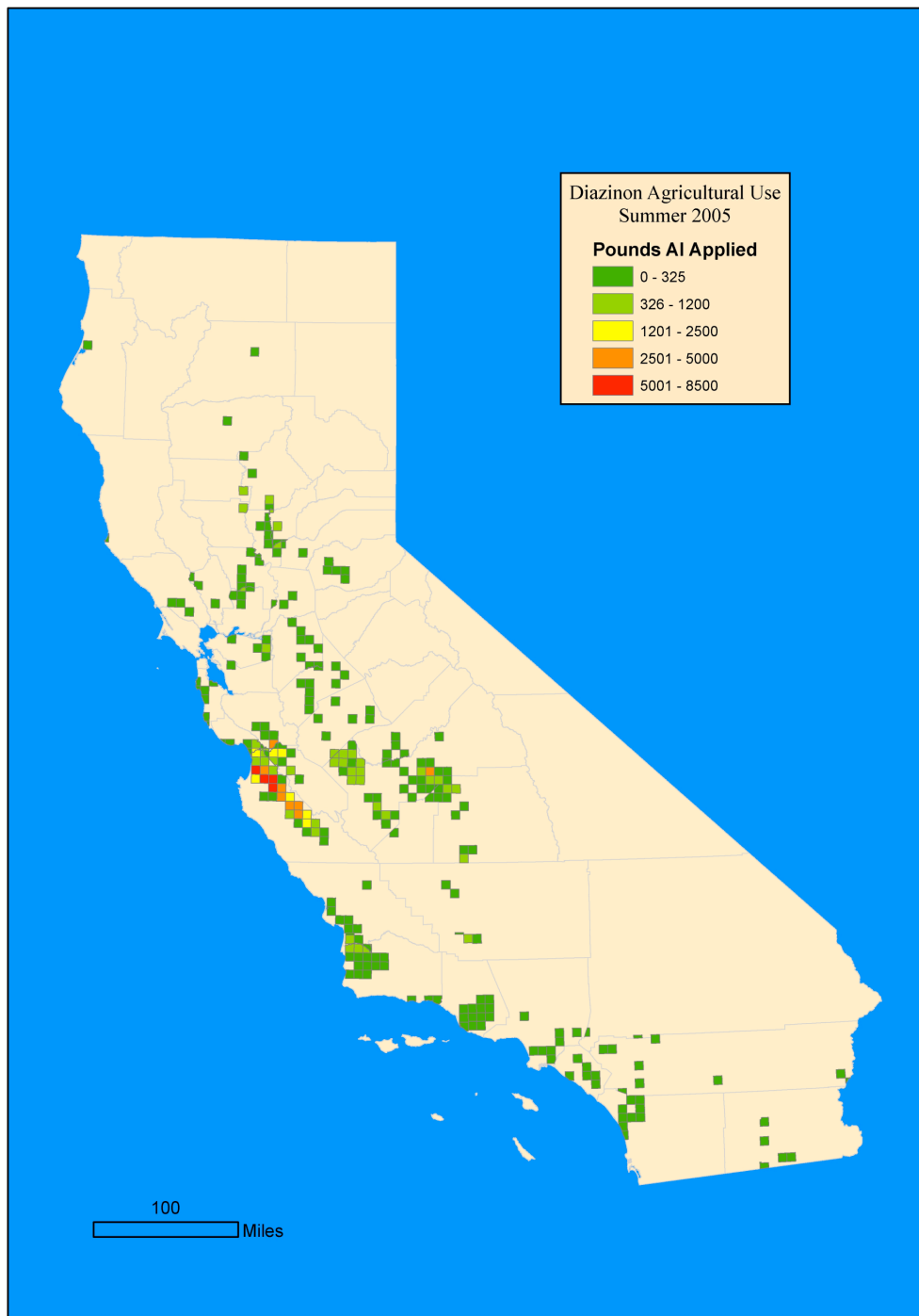


Figure 7. Typical Summer Diazinon Agricultural Use  
(Data shown are Summer 2005)

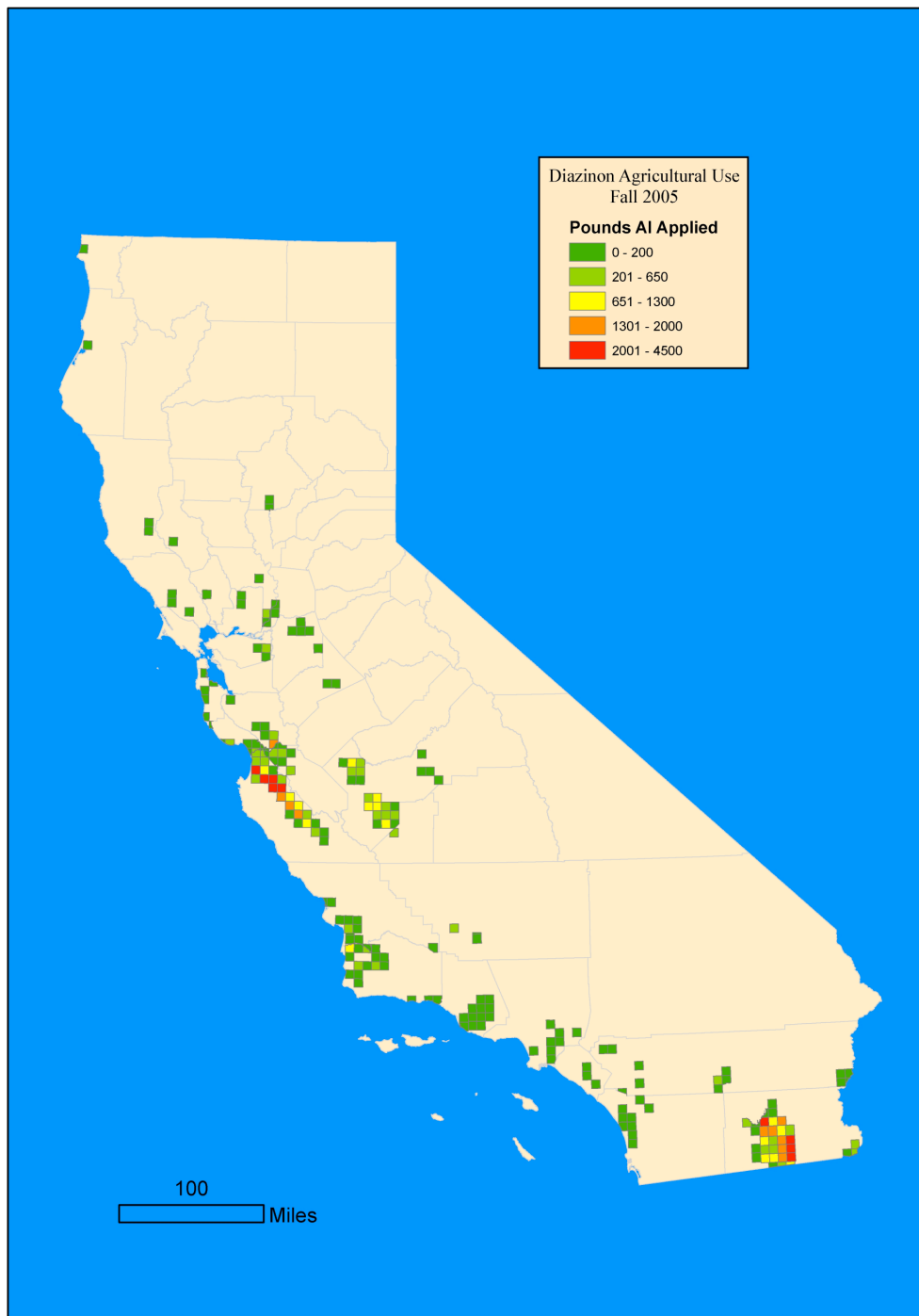


Figure 8. Typical Fall Diazinon Agricultural Use  
(Data shown are Fall 2005)



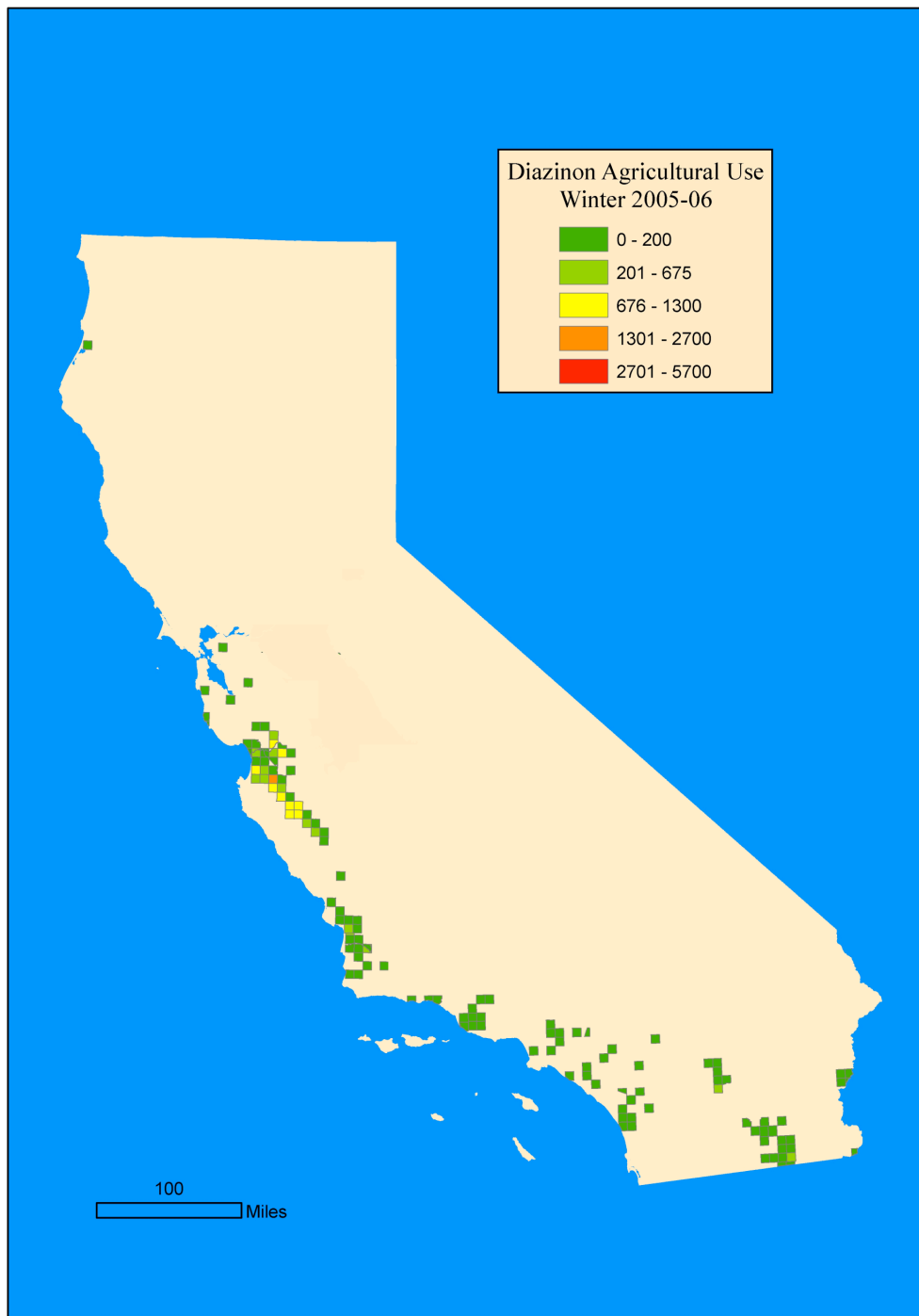


Figure 9. Typical Winter Diazinon Agricultural Use.  
Data shown are Winter 2005-06. Central Valley Use Not Shown.

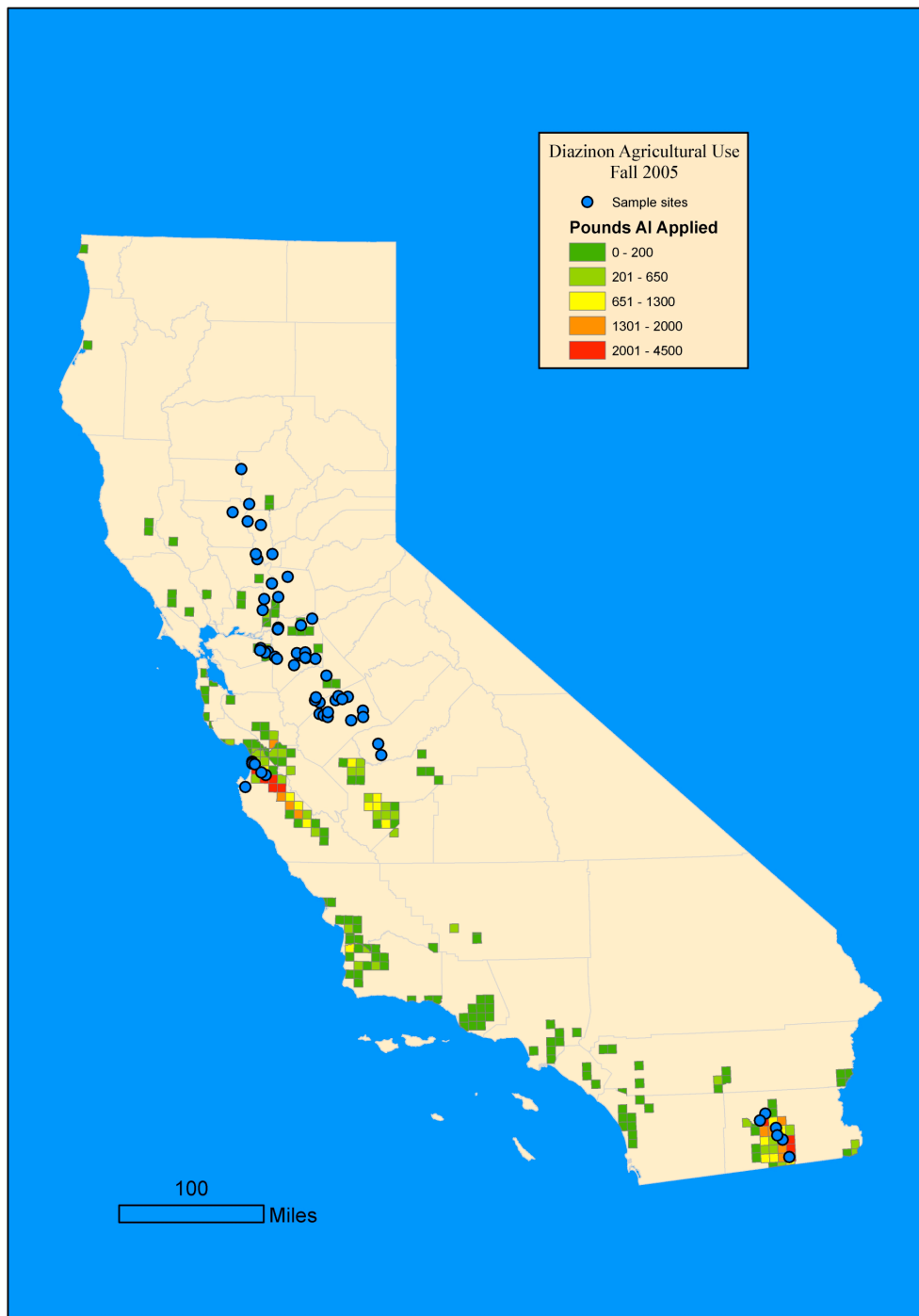


Figure 10. Typical Fall Diazinon Agricultural Use with Sample Sites Indicated.  
Data are from Fall 2005.

**Table 1. Diazinon Aquatic Life Criteria and Benchmarks**

| <b>Diazinon Toxicity Value/Benchmark</b>                                                           | <b>Concentration<br/>(ug/L)</b> |
|----------------------------------------------------------------------------------------------------|---------------------------------|
| CDFG Aquatic Life Criteria for freshwater - 4 day average concentration (Region 9)                 | 0.05                            |
| CDFG Aquatic Life Criteria for freshwater -1 hour maximum concentration (Region 9)                 | 0.08                            |
| Recalculated CDFG Aquatic Life Criteria for freshwater - 4 day average concentration (Region 5)    | 0.1                             |
| EPA Draft Aquatic Life Criteria for freshwater - 4 day average concentration                       | 0.1                             |
| EPA Draft Aquatic Life Criteria for freshwater - 1 hour maximum concentration (Region 2)           | 0.1                             |
| US EPA Benchmark, acute invertebrates                                                              | 0.105                           |
| Recalculated CDFG Aquatic Life Criteria for freshwater - 1 hour maximum concentration (Region 5)   | 0.16                            |
| US EPA Office of Water Aquatic Life Criteria (Maximum conc., CMC) (referred to in text as EPA WQC) | 0.17                            |
| US EPA Office of Water Aquatic Life Criteria (Continuous concentration - CCC)                      | 0.17                            |

Regions listed are California Regional Water Quality Control Board Regions which use the listed value as an enforceable concentration limit.

Region 2: San Francisco Bay

Region 5: Central Valley

Region 9: San Diego

**Table 2. Size and Primary Crops by Season for Diazinon Agricultural Use Regions.**

| <b>Region</b>         | <b>Area (square miles)</b> | <b>Spring</b>                        | <b>Summer</b>                            | <b>Fall</b>               | <b>Winter</b>        |
|-----------------------|----------------------------|--------------------------------------|------------------------------------------|---------------------------|----------------------|
| <b>Salinas V.</b>     | 510                        | lettuce (spinach)                    | lettuce (spinach, borccoli, cauliflower) | lettuce (spinach)         | lettuce (spinach)    |
| <b>Pajaro</b>         | 380                        | lettuce, spinach (tomatoes)          | lettuce, spinach (corn)                  | lettuce, spinach (corn)   | lettuce, onion       |
| <b>Sac V.</b>         | 6850                       | tomatoes, prune                      | walnut                                   | (pear)                    | prune, peach, almond |
| <b>San Joaquin V.</b> | 5950                       | cherry, prune, tomato                | cantelope, cherry, walnut                | (apple, cherry)           | almond (peach)       |
| <b>Tulare</b>         | 7780                       | lettuce (grapes, nectarine)          | corn, grapes, melons                     | lettuce (corn, tomatoes)  | almond (peach, plum) |
| <b>Imperial V.</b>    | 1260                       | (melons, corn)                       | (corn, bermudagrass)                     | lettuce, sugarbeets       | lettuce (melons)     |
| <b>Santa Maria V.</b> | 330                        | lettuce, carrots (broccoli, spinach) | lettuce, broccoli                        | lettuce, broccoli         | lettuce, broccoli    |
| <b>Ventura</b>        | 575                        | raspberry, onion, spinach            | raspberry, onion, spinach                | raspberry, onion, spinach | (raspberry, lettuce) |
| <b>Antelope</b>       | 1700                       | onion                                | ----                                     | ----                      | ----                 |

Secondary or low use crops shown in parentheses

| <b>Season</b> | <b>Months</b>      |
|---------------|--------------------|
| Spring        | March-May          |
| Summer        | June-August        |
| Fall          | September-November |
| Winter        | December-February  |

**Table 3. Percent of All State-Wide Agricultural Use Represented by Selected Use Regions, 2003-2007.**

| Season           | Year           | Salinas   | Pajaro    | Sacramento V. | San Joaquin V. | Tulare    | Imperial V. | S. Maria V. | Ventura  | Antelope | Total     |
|------------------|----------------|-----------|-----------|---------------|----------------|-----------|-------------|-------------|----------|----------|-----------|
| Spring           | 2003           | 41        | 14        | 8             | 10             | 7         | 0           | 1           | 2        | 12       | 97        |
| Spring           | 2004           | 43        | 16        | 9             | 7              | 13        | 0           | 3           | 2        | 4        | 98        |
| Spring           | 2005           | 51        | 15        | 11            | 4              | 9         | 1           | 3           | 1        | 1        | 95        |
| Spring           | 2006           | 45        | 16        | 8             | 2              | 16        | 0           | 3           | 1        | 4        | 96        |
| Spring           | 2007           | 47        | 14        | 14            | 4              | 12        | 0           | 2           | 0        | 3        | 96        |
| <b>Spring</b>    | <b>Average</b> | <b>45</b> | <b>15</b> | <b>10</b>     | <b>6</b>       | <b>11</b> | <b>0</b>    | <b>3</b>    | <b>1</b> | <b>5</b> | <b>96</b> |
| Summer           | 2003           | 52        | 12        | 6             | 9              | 13        | 1           | 4           | 2        | 0        | 98        |
| Summer           | 2004           | 55        | 14        | 6             | 6              | 10        | 0           | 5           | 2        | 0        | 98        |
| Summer           | 2005           | 54        | 12        | 7             | 7              | 13        | 0           | 3           | 1        | 0        | 98        |
| Summer           | 2006           | 52        | 17        | 6             | 5              | 12        | 1           | 3           | 1        | 0        | 97        |
| Summer           | 2007           | 58        | 14        | 5             | 5              | 10        | 1           | 3           | 2        | 0        | 98        |
| <b>Summer</b>    | <b>Average</b> | <b>54</b> | <b>14</b> | <b>6</b>      | <b>6</b>       | <b>12</b> | <b>0</b>    | <b>3</b>    | <b>2</b> | <b>0</b> | <b>98</b> |
| Fall             | 2003           | 25        | 5         | 6             | 4              | 8         | 46          | 3           | 1        | 0        | 98        |
| Fall             | 2004           | 28        | 6         | 5             | 3              | 7         | 44          | 2           | 2        | 0        | 97        |
| Fall             | 2005           | 33        | 7         | 1             | 3              | 11        | 37          | 3           | 1        | 0        | 96        |
| Fall             | 2006           | 28        | 5         | 1             | 3              | 17        | 35          | 3           | 1        | 0        | 93        |
| Fall             | 2007           | 31        | 4         | 1             | 2              | 17        | 37          | 2           | 1        | 0        | 95        |
| <b>Fall</b>      | <b>Average</b> | <b>29</b> | <b>5</b>  | <b>3</b>      | <b>3</b>       | <b>12</b> | <b>40</b>   | <b>3</b>    | <b>1</b> | <b>0</b> | <b>96</b> |
| Winter           | 2003-2004      | 51        | 17        | NI (1)        | NI             | NI        | 17          | 3           | 2        | 3        | 94        |
| Winter           | 2004-2005      | 64        | 15        | NI            | NI             | NI        | 10          | 5           | 2        | 0        | 95        |
| Winter           | 2005-2006      | 59        | 19        | NI            | NI             | NI        | 8           | 7           | 3        | 2        | 98        |
| Winter           | 2006-2007      | 55        | 24        | NI            | NI             | NI        | 8           | 6           | 1        | 0        | 95        |
| <b>Winter(2)</b> | <b>Average</b> | <b>57</b> | <b>19</b> | <b>NI</b>     | <b>NI</b>      | <b>NI</b> | <b>11</b>   | <b>5</b>    | <b>2</b> | <b>1</b> | <b>95</b> |

Notes

(1) NI = not included in analysis

(2) No Winter 2007-2008 data

**Table 4. Diazinon Agricultural Use by Region (Pounds Active Ingredient Applied), 2003-2007.**

| Season | Year      | Salinas | Pajaro | Sacramento V. | San Joaquin V. | Tulare | Imperial V. | S. Maria V. | Ventura | Antelope |
|--------|-----------|---------|--------|---------------|----------------|--------|-------------|-------------|---------|----------|
| Spring | 2003      | 49831   | 17089  | 9997          | 12852          | 9078   | 354         | 1713        | 2662    | 15101    |
| Spring | 2004      | 56432   | 20680  | 12232         | 9380           | 16793  | 395         | 3590        | 2537    | 4982     |
| Spring | 2005      | 49844   | 15160  | 10518         | 3869           | 8877   | 794         | 2902        | 977     | 920      |
| Spring | 2006      | 42544   | 15124  | 7098          | 2187           | 15278  | 423         | 3175        | 603     | 3736     |
| Spring | 2007      | 46853   | 14111  | 13799         | 3580           | 12571  | 52          | 2415        | 382     | 2580     |
| Summer | 2003      | 66395   | 14793  | 7862          | 10965          | 16715  | 640         | 4840        | 2868    | 135      |
| Summer | 2004      | 71464   | 18291  | 7967          | 7471           | 12925  | 312         | 6103        | 2612    | 7        |
| Summer | 2005      | 62784   | 14561  | 7984          | 8140           | 15746  | 402         | 3977        | 1278    | 0        |
| Summer | 2006      | 60254   | 19935  | 6875          | 6158           | 14296  | 583         | 3164        | 602     | 10       |
| Summer | 2007      | 60387   | 14957  | 4918          | 5521           | 9924   | 832         | 2913        | 2001    | 31       |
| Fall   | 2003      | 21245   | 3919   | 5126          | 3183           | 7004   | 38033       | 2364        | 949     | 3        |
| Fall   | 2004      | 23575   | 5357   | 4028          | 2321           | 5599   | 37146       | 2033        | 1670    | 0        |
| Fall   | 2005      | 25663   | 5166   | 930           | 2028           | 8733   | 28547       | 2087        | 743     | 0        |
| Fall   | 2006      | 22283   | 4057   | 436           | 2566           | 13455  | 27819       | 2128        | 637     | 1        |
| Fall   | 2007      | 18930   | 2543   | 822           | 1091           | 10273  | 22550       | 1365        | 745     | 178      |
| Winter | 2003-2004 | 10992   | 3717   | NI            | NI             | NI     | 3697        | 740         | 438     | 610      |
| Winter | 2004-2005 | 15473   | 3639   | NI            | NI             | NI     | 2324        | 1102        | 373     | 0        |
| Winter | 2005-2006 | 11359   | 3679   | NI            | NI             | NI     | 1499        | 1368        | 564     | 467      |
| Winter | 2006-2007 | 8904    | 3953   | NI            | NI             | NI     | 1267        | 1004        | 180     | 49       |

**Table 5. Diazinon Use Density (Pounds Applied per Square Mile of Region), 2003-2007.**

| Season | Year      | Salinas | Pajaro | Sacramento V. | San Joaquin V. | Tulare | Imperial V. | S. Maria V. | Ventura | Antelope |
|--------|-----------|---------|--------|---------------|----------------|--------|-------------|-------------|---------|----------|
| Spring | 2003      | 98      | 45     | 1             | 2              | 1      | 0           | 5           | 5       | 9        |
| Spring | 2004      | 111     | 54     | 2             | 2              | 2      | 0           | 11          | 4       | 3        |
| Spring | 2005      | 98      | 40     | 2             | 1              | 1      | 1           | 9           | 2       | 1        |
| Spring | 2006      | 83      | 40     | 1             | 0              | 2      | 0           | 10          | 1       | 2        |
| Spring | 2007      | 92      | 37     | 2             | 1              | 2      | 0           | 7           | 1       | 2        |
| Summer | 2003      | 130     | 39     | 1             | 2              | 2      | 1           | 15          | 5       | 0        |
| Summer | 2004      | 140     | 48     | 1             | 1              | 2      | 0           | 18          | 5       | 0        |
| Summer | 2005      | 123     | 38     | 1             | 1              | 2      | 0           | 12          | 2       | 0        |
| Summer | 2006      | 118     | 52     | 1             | 1              | 2      | 0           | 10          | 1       | 0        |
| Summer | 2007      | 118     | 39     | 1             | 1              | 1      | 1           | 9           | 3       | 0        |
| Fall   | 2003      | 42      | 10     | 1             | 1              | 1      | 30          | 7           | 2       | 0        |
| Fall   | 2004      | 46      | 14     | 1             | 0              | 1      | 29          | 6           | 3       | 0        |
| Fall   | 2005      | 50      | 14     | 0             | 0              | 1      | 23          | 6           | 1       | 0        |
| Fall   | 2006      | 44      | 11     | 0             | 0              | 2      | 22          | 6           | 1       | 0        |
| Fall   | 2007      | 37      | 7      | 0             | 0              | 1      | 18          | 4           | 1       | 0        |
| Winter | 2003-2004 | 22      | 10     | NI            | NI             | NI     | 3           | 2           | 1       | 0        |
| Winter | 2004-2005 | 30      | 10     | NI            | NI             | NI     | 2           | 3           | 1       | 0        |
| Winter | 2005-2006 | 22      | 10     | NI            | NI             | NI     | 1           | 4           | 1       | 0        |
| Winter | 2006-2007 | 17      | 10     | NI            | NI             | NI     | 1           | 3           | 0       | 0        |

| Use Density | Rank      |
|-------------|-----------|
| > 50        | very high |
| 16 to 50    | high      |
| 6 to 15     | moderate  |
| 1 to 5      | low       |
| < 1         | very low  |

**Table 6. Diazinon Use Rank, 2003-2007.**

| Season        | Year           | Salinas          | Pajaro          | Sacramento V.          | San Joaquin V.  | Tulare     | Imperial               | S. Maria V.     | Ventura    | Antelope        |
|---------------|----------------|------------------|-----------------|------------------------|-----------------|------------|------------------------|-----------------|------------|-----------------|
| Spring        | 2003           | very high        | high            | low                    | low             | low        | very low               | low             | low        | moderate        |
| Spring        | 2004           | very high        | high            | low                    | low             | low        | very low               | moderate        | low        | low             |
| Spring        | 2005           | very high        | high            | low                    | low             | low        | low                    | moderate        | low        | low             |
| Spring        | 2006           | very high        | high            | low                    | very low        | low        | very low               | moderate        | low        | low             |
| Spring        | 2007           | very high        | high            | low                    | low             | low        | very low               | moderate        | low        | low             |
| <b>Spring</b> | <b>Overall</b> | <b>very high</b> | <b>high</b>     | <b>low</b>             | <b>low</b>      | <b>low</b> | <b>very low</b>        | <b>moderate</b> | <b>low</b> | <b>low</b>      |
| Summer        | 2003           | very high        | high            | low                    | low             | low        | low                    | moderate        | low        | very low        |
| Summer        | 2004           | very high        | high            | low                    | low             | low        | very low               | high            | low        | very low        |
| Summer        | 2005           | very high        | high            | low                    | low             | low        | very low               | moderate        | low        | very low        |
| Summer        | 2006           | very high        | high            | low                    | low             | low        | very low               | moderate        | low        | very low        |
| Summer        | 2007           | very high        | high            | low                    | low             | low        | low                    | moderate        | low        | very low        |
| <b>Summer</b> | <b>Overall</b> | <b>very high</b> | <b>high</b>     | <b>low</b>             | <b>low</b>      | <b>low</b> | <b>very low to low</b> | <b>moderate</b> | <b>low</b> | <b>very low</b> |
| Fall          | 2003           | high             | moderate        | low                    | low             | low        | high                   | moderate        | low        | very low        |
| Fall          | 2004           | high             | moderate        | low                    | very low        | low        | high                   | moderate        | low        | very low        |
| Fall          | 2005           | high             | moderate        | very low               | very low        | low        | high                   | moderate        | low        | very low        |
| Fall          | 2006           | high             | moderate        | very low               | very low        | low        | high                   | moderate        | low        | very low        |
| Fall          | 2007           | high             | moderate        | very low               | very low        | low        | high                   | low             | low        | very low        |
| <b>Fall</b>   | <b>Overall</b> | <b>high</b>      | <b>moderate</b> | <b>very low to low</b> | <b>very low</b> | <b>low</b> | <b>high</b>            | <b>moderate</b> | <b>low</b> | <b>very low</b> |
| Winter        | 2003-2004      | high             | moderate        | NI                     | NI              | NI         | low                    | low             | low        | very low        |
| Winter        | 2004-2005      | high             | moderate        | NI                     | NI              | NI         | low                    | low             | low        | very low        |
| Winter        | 2005-2006      | high             | moderate        | NI                     | NI              | NI         | low                    | low             | low        | very low        |
| Winter        | 2006-2007      | high             | moderate        | NI                     | NI              | NI         | low                    | low             | very low   | very low        |
| <b>Winter</b> | <b>Overall</b> | <b>high</b>      | <b>moderate</b> | <b>NI</b>              | <b>NI</b>       | <b>NI</b>  | <b>low</b>             | <b>low</b>      | <b>low</b> | <b>very low</b> |

| Use Density | Rank      |
|-------------|-----------|
| > 50        | very high |
| 16 to 50    | high      |
| 6 to 15     | moderate  |
| 1 to 5      | low       |
| < 1         | very low  |



Table 7. Overview of Analysis Results.

Total Number of Samples (includes both river and tributary samples)

| Season | Salinas | Pajaro | Sac V | SJV | Tulare | Imperial | S Maria | Ventura | Antelope |
|--------|---------|--------|-------|-----|--------|----------|---------|---------|----------|
| Spring | 112     | 7      | 250   | 471 | 11     | 29       | 14      | 4       | 0        |
| Summer | 158     | 14     | 212   | 900 | 77     | 0        | 9       | 0       | 0        |
| Fall   | 102     | 4      | 66    | 102 | 6      | 37       | 26      | 0       | 0        |
| Winter | 38      | 0      | NI    | NI  | NI     | 0        | 10      | 0       | 0        |

Years of Monitoring Data

| Season | Salinas | Pajaro | Sac V | SJV | Tulare | Imperial | S Maria | Ventura | Antelope |
|--------|---------|--------|-------|-----|--------|----------|---------|---------|----------|
| Spring | 5       | 3      | 5     | 5   | 2      | 5        | 1       | 1       | 0        |
| Summer | 4       | 3      | 5     | 5   | 4      | 0        | 2       | 0       | 0        |
| Fall   | 6       | 3      | 5     | 5   | 2      | 5        | 3       | 0       | 0        |
| Winter | 4       | 0      | NI    | NI  | NI     | 0        | 1       | 0       | 0        |

Detection Frequency (%)

| Season | Salinas | Pajaro | Sac V   | SJV    | Tulare | Imperial | S Maria | Ventura | Antelope |
|--------|---------|--------|---------|--------|--------|----------|---------|---------|----------|
| Spring | 98      | 86     | 15 (25) | 9 (19) | 9      | 3        | 71      | 100     | ---      |
| Summer | 94      | 64     | 7       | 6      | 1      | ---      | 57      | ---     | ---      |
| Fall   | 93      | 75     | 5       | 3      | 0      | 97       | 42      | ---     | ---      |
| Winter | 84      | ---    | NI      | NI     | NI     | ---      | ---     | ---     | ---      |

Overall Exceedance Frequency of 0.16 ug/L Standard (Percent)

| Season | Salinas | Pajaro | Sac V | SJV | Tulare | Imperial | S Maria | Ventura | Antelope |
|--------|---------|--------|-------|-----|--------|----------|---------|---------|----------|
| Spring | 63      | 0      | < 1   | <1  | 0      | 0        | 7       | 25      | ---      |
| Summer | 47      | 7      | <1    | 1   | 0      | ---      | 29      | ---     | ---      |
| Fall   | 43      | 0      | 0     | 0   | 0      | 65       | 15      | ---     | ---      |
| Winter | 24      | ---    | NI    | NI  | NI     | ---      | 0       | ---     | ---      |

| Use Rank          | Color Code |
|-------------------|------------|
| very high         |            |
| high              |            |
| moderate          |            |
| low               |            |
| very low          |            |
| no data           | ---        |
| data not included | NI         |

**Table 8. Monitoring Results, Salinas Valley, Spring, 2003-2008.**

Use Rank: VERY HIGH

| Region            | Season                  | No. of Sites | Site Type        | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |             |             |             |             |             |             |             |            |
|-------------------|-------------------------|--------------|------------------|----------------|--------------|-------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
|                   |                         |              |                  |                |              | [0.05]                                          | [0.08]      | [0.10]      | [0.105]     | [0.16]      | [0.17]      | [0.50]      | [1.0]       | [5.0]      |
| Salinas V.        | Spring_2003             | 9            | All              | 41             | 100.0        | 75.6                                            | 63.4        | 61.0        | 58.5        | 58.5        | 58.5        | 24.4        | 9.8         | 0.0        |
| Salinas V.        | Spring_2004             | 0            | All              | 0              | 0.0          | 0.0                                             | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0        |
| Salinas V.        | Spring_2005             | 5            | All              | 5              | 100.0        | 60.0                                            | 40.0        | 40.0        | 40.0        | 40.0        | 40.0        | 20.0        | 0.0         | 0.0        |
| Salinas V.        | Spring_2006             | 4            | All              | 10             | 100.0        | 90.0                                            | 90.0        | 90.0        | 90.0        | 70.0        | 60.0        | 30.0        | 20.0        | 10.0       |
| Salinas V.        | Spring_2007             | 18           | All              | 33             | 97.0         | 84.8                                            | 78.8        | 75.8        | 75.8        | 60.6        | 54.5        | 33.3        | 18.2        | 3.0        |
| Salinas V.        | Spring_2008             | 9            | All              | 23             | 95.7         | 82.6                                            | 78.3        | 73.9        | 73.9        | 73.9        | 73.9        | 21.7        | 8.7         | 0.0        |
| <b>Salinas V.</b> | <b>Spring 2003-2008</b> | <b>45</b>    | <b>All</b>       | <b>112</b>     | <b>98.2</b>  | <b>80.4</b>                                     | <b>72.3</b> | <b>69.6</b> | <b>68.8</b> | <b>62.5</b> | <b>59.8</b> | <b>26.8</b> | <b>12.5</b> | <b>1.8</b> |
| Salinas V.        | Spring_2003             | 4            | River            | 18             | 100.0        | 66.7                                            | 61.1        | 61.1        | 61.1        | 61.1        | 61.1        | 11.1        | 0.0         | 0.0        |
| Salinas V.        | Spring_2004             | 0            | River            | 0              | 0.0          | 0.0                                             | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0        |
| Salinas V.        | Spring_2005             | 3            | River            | 3              | 100.0        | 33.3                                            | 33.3        | 33.3        | 33.3        | 33.3        | 33.3        | 0.0         | 0.0         | 0.0        |
| Salinas V.        | Spring_2006             | 2            | River            | 6              | 100.0        | 100.0                                           | 100.0       | 100.0       | 100.0       | 66.7        | 50.0        | 33.3        | 16.7        | 0.0        |
| Salinas V.        | Spring_2007             | 5            | River            | 12             | 91.7         | 83.3                                            | 66.7        | 66.7        | 66.7        | 58.3        | 58.3        | 8.3         | 0.0         | 0.0        |
| Salinas V.        | Spring_2008             | 3            | River            | 9              | 88.9         | 66.7                                            | 66.7        | 55.6        | 55.6        | 55.6        | 55.6        | 11.1        | 0.0         | 0.0        |
| <b>Salinas V.</b> | <b>Spring 2003-2008</b> | <b>17</b>    | <b>River</b>     | <b>48</b>      | <b>95.8</b>  | <b>72.9</b>                                     | <b>66.7</b> | <b>64.6</b> | <b>64.6</b> | <b>58.3</b> | <b>56.3</b> | <b>12.5</b> | <b>2.1</b>  | <b>0.0</b> |
| Salinas V.        | Spring_2003             | 5            | Tributary        | 23             | 100.0        | 82.6                                            | 65.2        | 60.9        | 56.5        | 56.5        | 56.5        | 34.8        | 17.4        | 0.0        |
| Salinas V.        | Spring_2004             | 0            | Tributary        | 0              | 0.0          | 0.0                                             | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0        |
| Salinas V.        | Spring_2005             | 2            | Tributary        | 2              | 100.0        | 100.0                                           | 50.0        | 50.0        | 50.0        | 50.0        | 50.0        | 50.0        | 0.0         | 0.0        |
| Salinas V.        | Spring_2006             | 2            | Tributary        | 4              | 100.0        | 75.0                                            | 75.0        | 75.0        | 75.0        | 75.0        | 75.0        | 25.0        | 25.0        | 25.0       |
| Salinas V.        | Spring_2007             | 13           | Tributary        | 21             | 100.0        | 85.7                                            | 85.7        | 81.0        | 81.0        | 61.9        | 52.4        | 47.6        | 28.6        | 4.8        |
| Salinas V.        | Spring_2008             | 6            | Tributary        | 14             | 100.0        | 92.9                                            | 85.7        | 85.7        | 85.7        | 85.7        | 85.7        | 28.6        | 14.3        | 0.0        |
| <b>Salinas V.</b> | <b>Spring 2003-2008</b> | <b>28</b>    | <b>Tributary</b> | <b>64</b>      | <b>100.0</b> | <b>85.9</b>                                     | <b>76.6</b> | <b>73.4</b> | <b>71.9</b> | <b>65.6</b> | <b>62.5</b> | <b>37.5</b> | <b>20.3</b> | <b>3.1</b> |

**Table 9. Monitoring Results, Salinas Valley, Summer, 2003-2008.**

Use Rank: VERY HIGH

|            |                  | No. of | Site      | No. of  | Det      | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |  |
|------------|------------------|--------|-----------|---------|----------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|--|
| Region     | Season           | Sites  | Type      | Samples | Freq (%) | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |  |
| Salinas V. | Summer_2003      | 12     | All       | 71      | 100.0    | 80.3                                            | 64.8   | 54.9   | 54.9    | 40.8   | 39.4   | 19.7   | 11.3  | 1.4   |  |
| Salinas V. | Summer_2004      | 0      | All       | 0       | 0.0      | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2005      | 0      | All       | 0       | 0.0      | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2006      | 20     | All       | 28      | 82.1     | 75.0                                            | 67.9   | 67.9   | 67.9    | 64.3   | 60.7   | 42.9   | 17.9  | 3.6   |  |
| Salinas V. | Summer_2007      | 9      | All       | 24      | 95.8     | 83.3                                            | 75.0   | 70.8   | 70.8    | 54.2   | 54.2   | 29.2   | 12.5  | 4.2   |  |
| Salinas V. | Summer_2008      | 8      | All       | 35      | 91.4     | 65.7                                            | 57.1   | 48.6   | 48.6    | 40.0   | 40.0   | 11.4   | 8.6   | 5.7   |  |
| Salinas V. | Summer 2004-2008 | 49     | All       | 158     | 94.3     | 76.6                                            | 65.2   | 58.2   | 58.2    | 46.8   | 45.6   | 23.4   | 12.0  | 3.2   |  |
| Salinas V. | Summer_2003      | 4      | River     | 12      | 100.0    | 25.0                                            | 16.7   | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2004      | 0      | River     | 0       | 0.0      | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2005      | 0      | River     | 0       | 0.0      | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2006      | 6      | River     | 9       | 44.4     | 33.3                                            | 33.3   | 33.3   | 33.3    | 33.3   | 33.3   | 11.1   | 0.0   | 0.0   |  |
| Salinas V. | Summer_2007      | 4      | River     | 12      | 91.7     | 66.7                                            | 50.0   | 41.7   | 41.7    | 8.3    | 8.3    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2008      | 2      | River     | 9       | 77.8     | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer 2003-2008 | 16     | River     | 42      | 81.0     | 33.3                                            | 26.2   | 19.0   | 19.0    | 9.5    | 9.5    | 2.4    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2003      | 8      | Tributary | 59      | 100.0    | 91.5                                            | 74.6   | 66.1   | 66.1    | 49.2   | 47.5   | 23.7   | 13.6  | 1.7   |  |
| Salinas V. | Summer_2004      | 0      | Tributary | 0       | 0.0      | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2005      | 0      | Tributary | 0       | 0.0      | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Summer_2006      | 14     | Tributary | 19      | 100.0    | 94.7                                            | 84.2   | 84.2   | 84.2    | 78.9   | 73.7   | 57.9   | 26.3  | 5.3   |  |
| Salinas V. | Summer_2007      | 5      | Tributary | 12      | 100.0    | 100.0                                           | 100.0  | 100.0  | 100.0   | 100.0  | 100.0  | 58.3   | 25.0  | 8.3   |  |
| Salinas V. | Summer_2008      | 6      | Tributary | 26      | 96.2     | 88.5                                            | 76.9   | 65.4   | 65.4    | 53.8   | 53.8   | 15.4   | 11.5  | 7.7   |  |
| Salinas V. | Summer 2003-2008 | 33     | Tributary | 116     | 99.1     | 92.2                                            | 79.3   | 72.4   | 72.4    | 60.3   | 58.6   | 31.0   | 16.4  | 4.3   |  |

**Table 10. Salinas Valley Monitoring Results, Fall, 2003-2008.**

Use Rank: HIGH

|            |                | No. of | Site      | No. of  | Det      | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |  |
|------------|----------------|--------|-----------|---------|----------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|--|
| Region     | Season         | Sites  | Type      | Samples | Freq (%) | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |  |
| Salinas V. | Fall_2003      | 12     | All       | 38      | 94.7     | 84.2                                            | 76.3   | 71.1   | 71.1    | 47.4   | 47.4   | 26.3   | 10.5  | 5.3   |  |
| Salinas V. | Fall_2004      | 5      | All       | 5       | 100.0    | 60.0                                            | 60.0   | 60.0   | 60.0    | 20.0   | 20.0   | 20.0   | 20.0  | 0.0   |  |
| Salinas V. | Fall_2005      | 6      | All       | 10      | 80.0     | 50.0                                            | 40.0   | 40.0   | 40.0    | 20.0   | 20.0   | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2006      | 11     | All       | 12      | 91.7     | 83.3                                            | 83.3   | 83.3   | 83.3    | 50.0   | 33.3   | 8.3    | 8.3   | 0.0   |  |
| Salinas V. | Fall_2007      | 14     | All       | 20      | 100.0    | 85.0                                            | 65.0   | 65.0   | 65.0    | 55.0   | 55.0   | 15.0   | 10.0  | 5.0   |  |
| Salinas V. | Fall_2008      | 12     | All       | 17      | 88.2     | 70.6                                            | 64.7   | 47.1   | 41.2    | 35.3   | 35.3   | 17.6   | 17.6  | 11.8  |  |
| Salinas V. | Fall 2003-2008 | 60     | All       | 102     | 93.1     | 77.5                                            | 68.6   | 63.7   | 62.7    | 43.1   | 41.2   | 17.6   | 10.8  | 4.9   |  |
| Salinas V. | Fall_2003      | 4      | River     | 8       | 75.0     | 25.0                                            | 12.5   | 12.5   | 12.5    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2004      | 3      | River     | 3       | 100.0    | 33.3                                            | 33.3   | 33.3   | 33.3    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2005      | 2      | River     | 4       | 50.0     | 25.0                                            | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2006      | 2      | River     | 2       | 50.0     | 50.0                                            | 50.0   | 50.0   | 50.0    | 50.0   | 50.0   | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2007      | 3      | River     | 5       | 100.0    | 60.0                                            | 20.0   | 20.0   | 20.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2008      | 2      | River     | 3       | 66.7     | 33.3                                            | 33.3   | 33.3   | 33.3    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall 2003-2008 | 16     | River     | 25      | 76.0     | 36.0                                            | 20.0   | 20.0   | 20.0    | 4.0    | 4.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2003      | 8      | Tributary | 30      | 100.0    | 100.0                                           | 93.3   | 86.7   | 86.7    | 60.0   | 60.0   | 33.3   | 13.3  | 6.7   |  |
| Salinas V. | Fall_2004      | 2      | Tributary | 2       | 100.0    | 100.0                                           | 100.0  | 100.0  | 100.0   | 50.0   | 50.0   | 50.0   | 50.0  | 0.0   |  |
| Salinas V. | Fall_2005      | 4      | Tributary | 6       | 100.0    | 66.7                                            | 66.7   | 66.7   | 66.7    | 33.3   | 33.3   | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Fall_2006      | 9      | Tributary | 10      | 100.0    | 90.0                                            | 90.0   | 90.0   | 90.0    | 50.0   | 30.0   | 10.0   | 10.0  | 0.0   |  |
| Salinas V. | Fall_2007      | 11     | Tributary | 15      | 100.0    | 93.3                                            | 80.0   | 80.0   | 80.0    | 73.3   | 73.3   | 20.0   | 13.3  | 6.7   |  |
| Salinas V. | Fall_2008      | 10     | Tributary | 14      | 92.9     | 78.6                                            | 71.4   | 50.0   | 42.9    | 42.9   | 42.9   | 21.4   | 21.4  | 14.3  |  |
| Salinas V. | Fall 2003-2008 | 44     | Tributary | 77      | 98.7     | 90.9                                            | 84.4   | 77.9   | 76.6    | 55.8   | 53.2   | 23.4   | 14.3  | 6.5   |  |

**Table 11. Monitoring Results, Salinas Valley, Winter, 2003/04 - 2007/08.**

Use Rank: HIGH

|            |                        | No. of Sites | Site Type | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |  |
|------------|------------------------|--------------|-----------|----------------|--------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|--|
| Region     | Season                 |              |           |                |              | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |  |
| Salinas V. | Winter 2003-2004       | 0            | All       | 0              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2004-2005       | 5            | All       | 5              | 60.0         | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2005-2006       | 8            | All       | 17             | 94.1         | 82.4                                            | 76.5   | 64.7   | 64.7    | 29.4   | 29.4   | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2006-2007       | 12           | All       | 13             | 84.6         | 53.8                                            | 53.8   | 46.2   | 46.2    | 30.8   | 15.4   | 7.7    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2007-2008       | 1            | All       | 3              | 66.7         | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter 2003/04-2007/08 | 26           | All       | 38             | 84.2         | 55.3                                            | 52.6   | 44.7   | 44.7    | 23.7   | 18.4   | 2.6    | 0.0   | 0.0   |  |
| Salinas V. | Winter 2003-2004       | 0            | River     | 0              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2004-2005       | 3            | River     | 3              | 33.3         | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2005-2006       | 5            | River     | 11             | 90.9         | 72.7                                            | 63.6   | 54.5   | 54.5    | 27.3   | 27.3   | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2006-2007       | 3            | River     | 3              | 66.7         | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2007-2008       | 1            | River     | 3              | 66.7         | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter 2003/04-2007/08 | 12           | River     | 20             | 75.0         | 40.0                                            | 35.0   | 30.0   | 30.0    | 15.0   | 15.0   | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter 2003-2004       | 0            | Tributary | 0              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2004-2005       | 2            | Tributary | 2              | 100.0        | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2005-2006       | 3            | Tributary | 6              | 100.0        | 100.0                                           | 100.0  | 83.3   | 83.3    | 33.3   | 33.3   | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter_2006-2007       | 9            | Tributary | 10             | 90.0         | 70.0                                            | 70.0   | 60.0   | 60.0    | 40.0   | 20.0   | 10.0   | 0.0   | 0.0   |  |
| Salinas V. | Winter_2007-2008       | 0            | Tributary | 0              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Salinas V. | Winter 2003/04-2007/08 | 14           | Tributary | 18             | 94.4         | 72.2                                            | 72.2   | 61.1   | 61.1    | 33.3   | 22.2   | 5.6    | 0.0   | 0.0   |  |

Use Rank: HIGH

[illegible]

Use Rank: HIGH

|        |                  | No. of Sites | Site Type | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |  |
|--------|------------------|--------------|-----------|----------------|--------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|--|
| Region | Season           |              |           |                |              | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |  |
| Pajaro | Summer_2006      | 1            | All       | 1              | 100          | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |  |
| Pajaro | Summer_2007      | 6            | All       | 9              | 77.8         | 11.1                                            | 11.1   | 11.1   | 11.1    | 11.1   | 11.1   | 0      | 0     | 0     |  |
| Pajaro | Summer_2008      | 2            | All       | 4              | 25           | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |  |
| Pajaro | Summer 2006-2008 | 9            | All       | 14             | 64.3         | 7.1                                             | 7.1    | 7.1    | 7.1     | 7.1    | 7.1    | 0      | 0     | 0     |  |
| Pajaro | Summer_2006      | 1            | River     | 1              | 100          | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |  |
| Pajaro | Summer_2007      | 3            | River     | 6              | 83.3         | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |  |
| Pajaro | Summer_2008      | 2            | River     | 4              | 25.0         | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |  |
| Pajaro | Summer 2006-2008 | 6            | River     | 11             | 63.6         | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |  |
| Pajaro | Summer_2006      | 0            | Tributary | 0              | --           | --                                              | --     | --     | --      | --     | --     | --     | --    | --    |  |
| Pajaro | Summer_2007      | 3            | Tributary | 3              | 66.7         | 33.3                                            | 33.3   | 33.3   | 33.3    | 33.3   | 33.3   | 0      | 0     | 0     |  |
| Pajaro | Summer_2008      | 0            | Tributary | 0              | --           | --                                              | --     | --     | --      | --     | --     | --     | --    | --    |  |
| Pajaro | Summer 2006-2008 | 3            | Tributary | 3              | 66.7         | 33.3                                            | 33.3   | 33.3   | 33.3    | 33.3   | 33.3   | 0      | 0     | 0     |  |

Use Rank: MODERATE

[illegible]

**Table 15. Monitoring Results, Santa Maria Valley, Spring 2007.**

Use Rank: MODERATE

| CSES Rankin: MODERATE |             |              |           |                |              |                                                 |        |        |         |        |        |        |       |       |
|-----------------------|-------------|--------------|-----------|----------------|--------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|
| Region                | Season      | No. of Sites | Site Type | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |
|                       |             |              |           |                |              | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |
| Santa Maria V.        | Spring 2007 | 9            | All       | 14             | 71.4         | 35.7                                            | 14.3   | 7.1    | 7.1     | 7.1    | 7.1    | 7.1    | 7.1   | 0     |
| Santa Maria V.        | Spring 2007 | 1            | River     | 1              | 100          | 100                                             | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |
| Santa Maria V.        | Spring 2007 | 8            | Tributary | 13             | 69.2         | 30.8                                            | 15.4   | 7.7    | 7.7     | 7.7    | 7.7    | 7.7    | 7.7   | 0     |

**Table 16. Monitoring Results, Santa Maria Valley, Summer 2006 and 2008.**

Use Rank: MODERATE

|                       |                             | No. of    | Site             | No. of    | Det         | Exceedance Freq (%) for conc in brackets (ug/L) |             |             |             |             |             |            |            |            |  |
|-----------------------|-----------------------------|-----------|------------------|-----------|-------------|-------------------------------------------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|--|
| Region                | Season                      | Sites     | Type             | Samples   | Freq (%)    | [0.05]                                          | [0.08]      | [0.10]      | [0.105]     | [0.16]      | [0.17]      | [0.50]     | [1.0]      | [5.0]      |  |
| Santa Maria V.        | Summer_2006                 | 8         | All              | 9         | 33.3        | 22.2                                            | 22.2        | 22.2        | 22.2        | 22.2        | 22.2        | 0.0        | 0          | 0          |  |
| Santa Maria V.        | Summer_2008                 | 4         | All              | 5         | 100         | 80                                              | 60          | 60          | 60          | 40          | 40          | 20         | 20         | 0          |  |
| <b>Santa Maria V.</b> | <b>Summer 2006 and 2008</b> | <b>12</b> | <b>All</b>       | <b>14</b> | <b>57.1</b> | <b>42.9</b>                                     | <b>35.7</b> | <b>35.7</b> | <b>35.7</b> | <b>28.6</b> | <b>28.6</b> | <b>7.1</b> | <b>7.1</b> | <b>0.0</b> |  |
| Santa Maria V.        | Summer_2006                 | 1         | River            | 1         | 100         | 100                                             | 100         | 100         | 100         | 100         | 100         | 0          | 0          | 0          |  |
| Santa Maria V.        | Summer_2008                 | 0         | River            | 0         | 0           | 0                                               | 0           | 0           | 0           | 0           | 0           | 0          | 0          | 0          |  |
| <b>Santa Maria V.</b> | <b>Summer 2006 and 2008</b> | <b>1</b>  | <b>River</b>     | <b>1</b>  | <b>100</b>  | <b>100</b>                                      | <b>100</b>  | <b>100</b>  | <b>100</b>  | <b>100</b>  | <b>100</b>  | <b>0</b>   | <b>0</b>   | <b>0</b>   |  |
| Santa Maria V.        | Summer_2006                 | 7         | Tributary        | 8         | 25          | 12.5                                            | 12.5        | 12.5        | 12.5        | 12.5        | 12.5        | 0          | 0          | 0          |  |
| Santa Maria V.        | Summer_2008                 | 4         | Tributary        | 5         | 100         | 80                                              | 60          | 60          | 60          | 40          | 40          | 20         | 20         | 0          |  |
| <b>Santa Maria V.</b> | <b>Summer 2006 and 2008</b> | <b>11</b> | <b>Tributary</b> | <b>13</b> | <b>53.8</b> | <b>38.5</b>                                     | <b>30.8</b> | <b>30.8</b> | <b>30.8</b> | <b>23.1</b> | <b>23.1</b> | <b>7.7</b> | <b>7.7</b> | <b>0.0</b> |  |



**Table 17. Monitoring Results, Santa Maria Valley, Fall 2006-2008.**

Use Rank : MODERATE

| Region                | Season                | No. of Sites | Site Type        | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |             |             |             |             |             |            |            |            |
|-----------------------|-----------------------|--------------|------------------|----------------|--------------|-------------------------------------------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|
|                       |                       |              |                  |                |              | [0.05]                                          | [0.08]      | [0.10]      | [0.105]     | [0.16]      | [0.17]      | [0.50]     | [1.0]      | [5.0]      |
| Santa Maria V.        | Fall_2006             | 9            | All              | 10             | 20           | 20                                              | 0           | 0           | 0           | 0           | 0           | 0          | 0          | 0          |
| Santa Maria V.        | Fall_2007             | 8            | All              | 8              | 37.5         | 37.5                                            | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 0.0        | 0.0        | 0.0        |
| Santa Maria V.        | Fall_2008             | 8            | All              | 8              | 75.0         | 25.0                                            | 25.0        | 25.0        | 25.0        | 25.0        | 25.0        | 0.0        | 0.0        | 0.0        |
| <b>Santa Maria V.</b> | <b>Fall 2006-2008</b> | <b>25</b>    | <b>All</b>       | <b>26</b>      | <b>42.3</b>  | <b>26.9</b>                                     | <b>15.4</b> | <b>15.4</b> | <b>15.4</b> | <b>15.4</b> | <b>15.4</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |
| Santa Maria V.        | Fall_2006             | 2            | River            | 2              | 50           | 50                                              | 0           | 0           | 0           | 0           | 0           | 0          | 0          | 0          |
| Santa Maria V.        | Fall_2007             | 1            | River            | 1              | 100.0        | 100.0                                           | 100.0       | 100.0       | 100.0       | 100.0       | 100.0       | 0.0        | 0.0        | 0.0        |
| Santa Maria V.        | Fall_2008             | 1            | River            | 1              | 100.0        | 100.0                                           | 100.0       | 100.0       | 100.0       | 100.0       | 100.0       | 0.0        | 0.0        | 0.0        |
| <b>Santa Maria V.</b> | <b>Fall 2006-2008</b> | <b>4</b>     | <b>River</b>     | <b>4</b>       | <b>75.0</b>  | <b>75.0</b>                                     | <b>50.0</b> | <b>50.0</b> | <b>50.0</b> | <b>50.0</b> | <b>50.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |
| Santa Maria V.        | Fall_2006             | 7            | Tributary        | 8              | 12.5         | 12.5                                            | 0           | 0           | 0           | 0           | 0           | 0          | 0          | 0          |
| Santa Maria V.        | Fall_2007             | 7            | Tributary        | 7              | 28.6         | 28.6                                            | 14.3        | 14.3        | 14.3        | 14.3        | 14.3        | 0.0        | 0.0        | 0.0        |
| Santa Maria V.        | Fall_2008             | 7            | Tributary        | 7              | 71.4         | 14.3                                            | 14.3        | 14.3        | 14.3        | 14.3        | 14.3        | 0.0        | 0.0        | 0.0        |
| <b>Santa Maria V.</b> | <b>Fall 2006-2008</b> | <b>21</b>    | <b>Tributary</b> | <b>22</b>      | <b>36.4</b>  | <b>18.2</b>                                     | <b>9.1</b>  | <b>9.1</b>  | <b>9.1</b>  | <b>9.1</b>  | <b>9.1</b>  | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |

**Table 18. Monitoring Results, Santa Maria Valley, Winter 2006/07.**

Use Rank: LOW

| Region         | Season           | No. of Sites | Site Type | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |
|----------------|------------------|--------------|-----------|----------------|--------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|
|                |                  |              |           |                |              | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |
| Santa Maria V. | Winter_2006-2007 | 9            | All       | 10             | 60           | 10                                              | 10     | 10     | 0       | 0      | 0      | 0      | 0     | 0     |
| Santa Maria V. | Winter_2006-2007 | 1            | River     | 1              | 100          | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |
| Santa Maria V. | Winter_2006-2007 | 8            | Tributary | 9              | 55.6         | 11.1                                            | 11.1   | 11.1   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |

**Table 19. Monitoring Results, Ventura, Spring 2007.**

Use Rank: LOW

| USE Rank: LOW |             |              |           |                |              |                                                 |        |        |         |        |        |        |       |       |
|---------------|-------------|--------------|-----------|----------------|--------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|
| Region        | Season      | No. of Sites | Site Type | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |
|               |             |              |           |                |              | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |
| Ventura       | Spring 2007 | 4            | All       | 4              | 100          | 50                                              | 50     | 25     | 25      | 25     | 25     | 25     | 0     | 0     |
| Ventura       | Spring 2007 | 2            | River     | 2              | 100          | 100                                             | 100    | 50     | 50      | 50     | 50     | 50     | 0     | 0     |
| Ventura       | Spring 2007 | 2            | Tributary | 2              | 100          | 0                                               | 0      | 0      | 0       | 0      | 0      | 0      | 0     | 0     |

**Table 20. Monitoring Results, Imperial Valley, Fall 2003-2008.**

Use Rank: HIGH

| Region      | Season         | No. of Sites | Site Type | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |  |
|-------------|----------------|--------------|-----------|----------------|--------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|--|
|             |                |              |           |                |              | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |  |
| Imperial V. | Fall_2003      | 2            | All       | 2              | 100.0        | 100.0                                           | 100.0  | 100.0  | 100.0   | 50.0   | 50.0   | 0.0    | 0.0   | 0.0   |  |
| Imperial V. | Fall_2004      | 5            | All       | 5              | 100.0        | 80.0                                            | 60.0   | 60.0   | 60.0    | 60.0   | 40.0   | 0.0    | 0.0   | 0.0   |  |
| Imperial V. | Fall_2005      | 6            | All       | 6              | 100.0        | 100.0                                           | 83.3   | 83.3   | 83.3    | 83.3   | 83.3   | 50.0   | 33.3  | 16.7  |  |
| Imperial V. | Fall_2006      | 10           | All       | 12             | 100.0        | 83.3                                            | 75.0   | 75.0   | 66.7    | 66.7   | 66.7   | 41.7   | 16.7  | 0.0   |  |
| Imperial V. | Fall_2007      | 6            | All       | 6              | 100.0        | 66.7                                            | 66.7   | 66.7   | 66.7    | 50.0   | 33.3   | 16.7   | 0.0   | 0.0   |  |
| Imperial V. | Fall_2008      | 6            | All       | 6              | 83.3         | 83.3                                            | 66.7   | 66.7   | 66.7    | 66.7   | 66.7   | 33.3   | 16.7  | 16.7  |  |
| Imperial V. | Fall 2003-2008 | 35           | All       | 37             | 97.3         | 83.8                                            | 73.0   | 73.0   | 70.3    | 64.9   | 59.5   | 29.7   | 13.5  | 5.4   |  |
| Imperial V. | Fall_2003      | 2            | River     | 2              | 100.0        | 100.0                                           | 100.0  | 100.0  | 100.0   | 50.0   | 50.0   | 0.0    | 0.0   | 0.0   |  |
| Imperial V. | Fall_2004      | 1            | River     | 1              | 100.0        | 100.0                                           | 100.0  | 100.0  | 100.0   | 100.0  | 100.0  | 0.0    | 0.0   | 0.0   |  |
| Imperial V. | Fall_2005      | 2            | River     | 2              | 100.0        | 100.0                                           | 100.0  | 100.0  | 100.0   | 100.0  | 100.0  | 100.0  | 50.0  | 50.0  |  |
| Imperial V. | Fall_2006      | 7            | River     | 9              | 100.0        | 88.9                                            | 77.8   | 77.8   | 77.8    | 77.8   | 77.8   | 44.4   | 11.1  | 0.0   |  |
| Imperial V. | Fall_2007      | 3            | River     | 3              | 100.0        | 100.0                                           | 100.0  | 100.0  | 100.0   | 66.7   | 66.7   | 33.3   | 0.0   | 0.0   |  |
| Imperial V. | Fall_2008      | 3            | River     | 3              | 100.0        | 100.0                                           | 66.7   | 66.7   | 66.7    | 66.7   | 66.7   | 0.0    | 0.0   | 0.0   |  |
| Imperial V. | Fall 2003-2008 | 18           | River     | 20             | 100.0        | 95.0                                            | 85.0   | 85.0   | 85.0    | 75.0   | 75.0   | 35.0   | 10.0  | 5.0   |  |
| Imperial V. | Fall_2003      | 0            | Tributary | 0              | --           | --                                              | --     | --     | --      | --     | --     | --     | --    | --    |  |
| Imperial V. | Fall_2004      | 4            | Tributary | 4              | 100.0        | 75.0                                            | 50.0   | 50.0   | 50.0    | 50.0   | 25.0   | 0.0    | 0.0   | 0.0   |  |
| Imperial V. | Fall_2005      | 4            | Tributary | 4              | 100.0        | 100.0                                           | 75.0   | 75.0   | 75.0    | 75.0   | 75.0   | 25.0   | 25.0  | 0.0   |  |
| Imperial V. | Fall_2006      | 3            | Tributary | 3              | 100.0        | 66.7                                            | 66.7   | 66.7   | 33.3    | 33.3   | 33.3   | 33.3   | 33.3  | 0.0   |  |
| Imperial V. | Fall_2007      | 3            | Tributary | 3              | 100.0        | 33.3                                            | 33.3   | 33.3   | 33.3    | 33.3   | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Imperial V. | Fall_2008      | 3            | Tributary | 3              | 66.7         | 66.7                                            | 66.7   | 66.7   | 66.7    | 66.7   | 66.7   | 66.7   | 33.3  | 33.3  |  |
| Imperial V. | Fall 2003-2008 | 17           | Tributary | 17             | 94.1         | 70.6                                            | 58.8   | 58.8   | 52.9    | 52.9   | 41.2   | 23.5   | 17.6  | 5.9   |  |

**Table 21. Monitornig Results, Sacramento Valley, Spring 2003-2007.**

Use Rank: LOW

| Region        | Season                  | No. of Sites | Site Type        | No. of Samples | Det Freq (%) (1)   | Exceedance Freq (%) for conc in brackets (ug/L) |            |            |            |            |            |            |            |            |
|---------------|-------------------------|--------------|------------------|----------------|--------------------|-------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
|               |                         |              |                  |                |                    | [0.05]                                          | [0.08]     | [0.10]     | [0.105]    | [0.16]     | [0.17]     | [0.50]     | [1.0]      | [5.0]      |
| Sac V.        | Spring_2003             | 7            | All              | 74             | 12.2 (28.4)        | 2.7                                             | 1.4        | 1.4        | 1.4        | 1.4        | 1.4        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2004             | 8            | All              | 36             | 8.3 (25.0)         | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2005             | 20           | All              | 56             | 7.1 (17.9)         | 1.8                                             | 1.8        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2006             | 22           | All              | 54             | 33.3               | 5.6                                             | 5.6        | 1.9        | 1.9        | 1.9        | 1.9        | 0.0        | 0.0        | 0.0        |
| Sac V.        | spring_2007             | 14           | All              | 30             | 13.3               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <b>Sac V.</b> | <b>Spring 2003-2007</b> | <b>71</b>    | <b>All</b>       | <b>250</b>     | <b>15.2 (24.8)</b> | <b>2.4</b>                                      | <b>2</b>   | <b>0.8</b> | <b>0.8</b> | <b>0.8</b> | <b>0.8</b> | <b>0</b>   | <b>0</b>   | <b>0</b>   |
| Sac V.        | Spring_2003             | 3            | River            | 31             | 6.5 (25.8)         | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2004             | 2            | River            | 9              | 0.0 (11.1)         | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2005             | 2            | River            | 5              | 0.0 (20.0)         | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2006             | 0            | River            | 0              | 0                  | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | spring_2007             | 1            | River            | 2              | 0                  | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <b>Sac V.</b> | <b>Spring 2003-2007</b> | <b>8</b>     | <b>River</b>     | <b>47</b>      | <b>4.3 (21.3)</b>  | <b>0.0</b>                                      | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |
| Sac V.        | Spring_2003             | 4            | Tributary        | 43             | 16.3 (30.2)        | 4.7                                             | 2.3        | 2.3        | 2.3        | 2.3        | 2.3        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2004             | 6            | Tributary        | 27             | 11.1 (29.6)        | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2005             | 18           | Tributary        | 51             | 7.8 (17.6)         | 2.0                                             | 2.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| Sac V.        | Spring_2006             | 22           | Tributary        | 54             | 33.3               | 5.6                                             | 5.6        | 1.9        | 1.9        | 1.9        | 1.9        | 0.0        | 0.0        | 0.0        |
| Sac V.        | spring_2007             | 13           | Tributary        | 28             | 14.3               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <b>Sac V.</b> | <b>Spring 2003-2007</b> | <b>63</b>    | <b>Tributary</b> | <b>203</b>     | <b>17.7 (25.6)</b> | <b>3.0</b>                                      | <b>2.5</b> | <b>1.0</b> | <b>1.0</b> | <b>1.0</b> | <b>1.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |

(1) Value in parentheses is Overall Detection Frequency including trace detections.

**Table 22. Monitoring Results, Sacramento Valley, Summer 2003-2007.**

Use Rank : LOW

USE Rank : LOW

| Region | Season           | No. of Sites | Site Type | No. of Samples | Det Freq (%) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |  |
|--------|------------------|--------------|-----------|----------------|--------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|--|
|        |                  |              |           |                |              | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |  |
| Sac V. | Summer_2003      | 2            | All       | 4              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2004      | 18           | All       | 49             | 18.4         | 4.1                                             | 2.0    | 2.0    | 2.0     | 2.0    | 2.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2005      | 23           | All       | 70             | 5.7          | 1.4                                             | 1.4    | 1.4    | 1.4     | 1.4    | 1.4    | 1.4    | 1.4   | 0.0   |  |
| Sac V. | Summer_2006      | 22           | All       | 49             | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2007      | 14           | All       | 40             | 2.5          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer 2003-2007 | 79           | All       | 212            | 6.6          | 1.4                                             | 0.9    | 0.9    | 0.9     | 0.9    | 0.9    | 0.5    | 0.5   | 0.0   |  |
| Sac V. | Summer_2003      | 1            | River     | 2              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2004      | 2            | River     | 3              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2005      | 2            | River     | 7              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2006      | 2            | River     | 2              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2007      | 1            | River     | 3              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer 2003-2007 | 8            | River     | 17             | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2003      | 1            | Tributary | 2              | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2004      | 16           | Tributary | 46             | 19.6         | 4.3                                             | 2.2    | 2.2    | 2.2     | 2.2    | 2.2    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2005      | 21           | Tributary | 63             | 6.3          | 1.6                                             | 1.6    | 1.6    | 1.6     | 1.6    | 1.6    | 1.6    | 1.6   | 0.0   |  |
| Sac V. | Summer_2006      | 20           | Tributary | 47             | 0.0          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer_2007      | 13           | Tributary | 37             | 2.7          | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| Sac V. | Summer 2003-2007 | 71           | Tributary | 195            | 7.2          | 1.5                                             | 1.0    | 1.0    | 1.0     | 1.0    | 1.0    | 0.5    | 0.5   | 0.0   |  |

Use Rank: VERY LOW

[illegible]

**Table 24. Monitoring Results, San Joaquin Valley, Spring 2003-2007.**

Use Rank: LOW

|                |                  | No. of Sites | Site Type | No. of Samples | Det Freq (%) (1) | Exceedance Freq (%) for conc in brackets (ug/L) |        |        |         |        |        |        |       |       |  |
|----------------|------------------|--------------|-----------|----------------|------------------|-------------------------------------------------|--------|--------|---------|--------|--------|--------|-------|-------|--|
| Region         | Season           |              |           |                |                  | [0.05]                                          | [0.08] | [0.10] | [0.105] | [0.16] | [0.17] | [0.50] | [1.0] | [5.0] |  |
| San Joaquin V. | Spring_2003      | 20           | All       | 163            | 6.7 (25.2)       | 0.6                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2004      | 11           | All       | 64             | 6.3 (15.6)       | 1.6                                             | 1.6    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2005      | 36           | All       | 126            | 8.7 (17.5)       | 1.6                                             | 0.8    | 0.8    | 0.8     | 0.8    | 0.8    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2006      | 32           | All       | 76             | 21.1             | 2.6                                             | 1.3    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2007      | 17           | All       | 42             | 0.0              | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring 2003-2007 | 116          | All       | 471            | 8.9 (18.9)       | 1.3                                             | 0.6    | 0.2    | 0.2     | 0.2    | 0.2    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2003      | 12           | River     | 87             | 4.6 (20.7)       | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2004      | 7            | River     | 42             | 2.4 (9.5)        | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2005      | 9            | River     | 39             | 0.0 (15.4)       | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2006      | 7            | River     | 24             | 0.0              | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2007      | 2            | River     | 5              | 0.0              | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring 2003-2007 | 37           | River     | 197            | 2.5 (14.2)       | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2003      | 8            | Tributary | 76             | 9.2 (30.3)       | 1.3                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2004      | 4            | Tributary | 22             | 13.6 (27.3)      | 4.5                                             | 4.5    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2005      | 27           | Tributary | 87             | 12.6 (18.4)      | 2.3                                             | 1.1    | 1.1    | 1.1     | 1.1    | 1.1    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2006      | 25           | Tributary | 52             | 30.8             | 3.8                                             | 1.9    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring_2007      | 15           | Tributary | 37             | 0.0              | 0.0                                             | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   |  |
| San Joaquin V. | Spring 2003-2007 | 79           | Tributary | 274            | 13.5 (22.3)      | 2.2                                             | 1.1    | 0.4    | 0.4     | 0.4    | 0.4    | 0.0    | 0.0   | 0.0   |  |

(1) Value in parentheses is Overall Detection Frequency including trace detections.

**Table 25. Monitoring Results, San Joaquin Valley, Summer 2003-2007.**

Use Rank: LOW

| Region                | Season                | No. of Sites | Site Type        | No. of Samples | Det Freq (%) (1) | Exceedance Freq (%) for conc in brackets (ug/L) |            |            |            |            |            |            |            |            |
|-----------------------|-----------------------|--------------|------------------|----------------|------------------|-------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
|                       |                       |              |                  |                |                  | [0.05]                                          | [0.08]     | [0.10]     | [0.105]    | [0.16]     | [0.17]     | [0.50]     | [1.0]      | [5.0]      |
| San Joaquin V.        | Summer_2003           | 12           | All              | 194            | 6.7 (12.4)       | 2.6                                             | 1.0        | 0.5        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2004           | 43           | All              | 117            | 17.9 (23.1)      | 4.3                                             | 0.9        | 0.9        | 0.9        | 0.9        | 0.9        | 0.9        | 0.9        | 0.0        |
| San Joaquin V.        | Summer_2005           | 63           | All              | 229            | 5.2 (5.7)        | 0.9                                             | 0.9        | 0.9        | 0.9        | 0.9        | 0.9        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2006           | 44           | All              | 159            | 4.4              | 1.9                                             | 1.9        | 1.9        | 1.9        | 1.9        | 1.9        | 0.6        | 0.6        | 0.0        |
| San Joaquin V.        | Summer_2007           | 47           | All              | 201            | 0.5              | 0.5                                             | 0.5        | 0.5        | 0.5        | 0.5        | 0.5        | 0.0        | 0.0        | 0.0        |
| <b>San Joaquin V.</b> | <b>Summer 2003-07</b> | <b>209</b>   | <b>All</b>       | <b>900</b>     | <b>6.0 (8.0)</b> | <b>1.8</b>                                      | <b>1.0</b> | <b>0.9</b> | <b>0.8</b> | <b>0.8</b> | <b>0.8</b> | <b>0.2</b> | <b>0.2</b> | <b>0.0</b> |
| San Joaquin V.        | Summer_2003           | 7            | River            | 101            | 4.0 (6.9)        | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2004           | 7            | River            | 32             | 6.3 (25.0)       | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2005           | 8            | River            | 74             | 1.4 (2.7)        | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2006           | 9            | River            | 60             | 1.7              | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2007           | 2            | River            | 9              | 0.0              | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <b>San Joaquin V.</b> | <b>Summer 2003-07</b> | <b>33</b>    | <b>River</b>     | <b>276</b>     | <b>0.0</b>       | <b>0.0</b>                                      | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |
| San Joaquin V.        | Summer_2003           | 5            | Tributary        | 93             | 9.7 (18.3)       | 5.4                                             | 2.2        | 1.1        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2004           | 36           | Tributary        | 85             | 22.4             | 5.9                                             | 1.2        | 1.2        | 1.2        | 1.2        | 1.2        | 1.2        | 1.2        | 0.0        |
| San Joaquin V.        | Summer_2005           | 55           | Tributary        | 155            | 7.1              | 1.3                                             | 1.3        | 1.3        | 1.3        | 1.3        | 1.3        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Summer_2006           | 35           | Tributary        | 99             | 6.1              | 3.0                                             | 3.0        | 3.0        | 3.0        | 3.0        | 3.0        | 1.0        | 1.0        | 0.0        |
| San Joaquin V.        | Summer_2007           | 45           | Tributary        | 192            | 0.5              | 0.5                                             | 0.5        | 0.5        | 0.5        | 0.5        | 0.5        | 0.0        | 0.0        | 0.0        |
| <b>San Joaquin V.</b> | <b>Summer 2003-07</b> | <b>176</b>   | <b>Tributary</b> | <b>624</b>     | <b>7.4 (8.7)</b> | <b>2.6</b>                                      | <b>1.4</b> | <b>1.3</b> | <b>1.1</b> | <b>1.1</b> | <b>1.1</b> | <b>0.3</b> | <b>0.3</b> | <b>0.0</b> |

(1) Value in parentheses is Overall Detection Frequency including trace detections.

**Table 26. Monitoring Results, San Joaquin Valley, Fall 2003-2007.**

Use Rank: VERY LOW

| Region                | Season                | No. of Sites | Site Type        | No. of Samples | Det Freq (%) (1)  | Exceedance Freq (%) for conc in brackets (ug/L) |            |            |            |            |            |            |            |            |
|-----------------------|-----------------------|--------------|------------------|----------------|-------------------|-------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
|                       |                       |              |                  |                |                   | [0.05]                                          | [0.08]     | [0.10]     | [0.105]    | [0.16]     | [0.17]     | [0.50]     | [1.0]      | [5.0]      |
| San Joaquin V.        | Fall_2003             | 5            | All              | 23             | 0.0 (4.3)         | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2004             | 13           | All              | 13             | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2005             | 14           | All              | 16             | 12.5              | 6.3                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2006             | 19           | All              | 20             | 5.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2007             | 18           | All              | 30             | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <b>San Joaquin V.</b> | <b>Fall 2003-2007</b> | <b>69</b>    | <b>All</b>       | <b>102</b>     | <b>2.9 (3.9)</b>  | <b>1.0</b>                                      | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |
| San Joaquin V.        | Fall_2003             | 1            | River            | 1              | 0.0 (100.0)       | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2004             | 3            | River            | 3              | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2005             | 2            | River            | 4              | 25.0              | 25.0                                            | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2006             | 3            | River            | 4              | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2007             | 2            | River            | 3              | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <b>San Joaquin V.</b> | <b>Fall 2003-2007</b> | <b>11</b>    | <b>River</b>     | <b>15</b>      | <b>6.7 (13.3)</b> | <b>6.7</b>                                      | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |
| San Joaquin V.        | Fall_2003             | 4            | Tributary        | 22             | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2004             | 10           | Tributary        | 10             | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2005             | 12           | Tributary        | 12             | 8.3               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2006             | 16           | Tributary        | 16             | 6.3               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| San Joaquin V.        | Fall_2007             | 16           | Tributary        | 27             | 0.0               | 0.0                                             | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <b>San Joaquin V.</b> | <b>Fall 2003-2007</b> | <b>58</b>    | <b>Tributary</b> | <b>87</b>      | <b>2.3</b>        | <b>0.0</b>                                      | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |

(1) Value in parentheses is Overall Detection Frequency including trace detections.



Use Rank : LOW

[illegible]

Use Rank: LOW

[illegible]

**Table 29. Monitoring Results, Tulare, Fall 2006-2007.**

Use Rank: LOW

[illegible]